

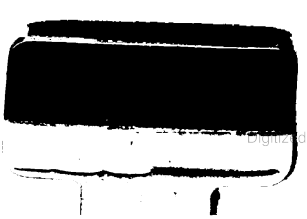

# The Philosophy of History

## By S. S. HEBBERD

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*Revised Edition*

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# THE PHILOSOPHY OF THE FUTURE

By S. S. HEBBERD

Author of "Philosophy of History," "The Secret of Christianity" "The Science of Thought," Etc.

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# PREFACE

THIS book has cost me more than half a century of toil and the loss of most things that men chiefly desire. And still it is very imperfect. How, indeed, could it be otherwise, since I have had to cut my way through a wilderness, aided only by the errors of those who have preceded me? But, as I have shown in my "Philosophy of History," we are on the verge of a great transition. The Protestant age of dissent and division has exhausted itself, and has now little of value to offer us. And so I send forth my book, hoping that despite its imperfections, it may serve to foreshadow the better time that is coming.

I am encouraged too by what Kant says in the Scholia to his Prolegomena: "All transitions from a tendency to its contrary pass through the stage of indifference, and this moment is most dangerous for an author, but the most favorable for the science. For when party-spirit has died out by a total dissolution of former connections, minds are in the best state to listen to several proposals for an organization according to a new plan."

S. S. HEBBERD.

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# CHAPTER I

## THE NATURE OF THOUGHT

### *Section 1. The Fundamental Principle*

THE principle upon which I seek to found a new philosophy is this: The sole, essential function of all thinking, as contrasted with feeling, is to discriminate between cause and effect.

It is a simple thesis; but it will not be disparaged on that account by any one who knows the history of inductive science. Such an one will remember that the greatest discoveries have always borne this stamp of simplicity. The secrets of Nature always seem open and evident when once we have found them out. But it is not so easy to find them out and verify them. It is far easier to plod along in the old ruts of tradition and error; or to revolve, like one lost in the woods, in circles of verbiage and ambiguity.

But your thesis, it may be said, is nothing new. It is but a revamping of Schopenhauer's reduction of all the Kantian categories to that of causality. But such an objection would be both shallow and false. Some of the Pythagoreans anticipated dimly the Copernican discovery, but they never verified their vague conjectures; and the contrast between my doctrine and Schopenhauer's is much wider and deeper than that. (*a*) For he confined his view to processes of the understanding, which for him—as also for

Kant, Hegel and the rest—was but a part of the intellect; and a very inferior, rudimentary part, the source of all error and deception. (*b*) Nor did Schopenhauer even attempt to prove the reality of causation; he never questioned Kant's view of it as but a logical necessity, an arbitrary compulsion forced upon us by the deceptive understanding. (*c*) Above all, he did not see that this universal scope of the causal concept could be converted into a proof that it was no mere figment of the mind; to him it was merely "subjective." In fine, Schopenhauer simply carried the Kantian philosophy one stage farther on—into that pessimism which, as the history of India so painfully shows, is the inevitable outcome of every fully developed theory of Maya or illusion.

My doctrine is the exact opposite of all this. For its main design is to find an ultimate, universal criterion of truth, and thus overcome the skepticism lurking in both the materialistic and idealistic modes of modern thought.

## *Section 2. Hume's Problem*

Modern philosophy is tormented by one very grievous malady. Its criticism has destroyed the old criteria of truth, but has never been able to put anything else in their place; it has torn down, but knows not how to rebuild. Even through all the storm and stress of the eighteenth century, the primary convictions of mankind were conserved, at least for the majority, by the doctrine of innate ideas or intuitions.

But Kant completely wrecked the intuitional method of defending truth. The very fact that all men were somehow mysteriously compelled to accept, without any proof, certain convictions concerning time, space, substance, cause, etc., was made a ground for discrediting these convictions. His criticism has never been adequately answered. And for more than a century now, our most elementary convictions, moral as well as religious, have been hanging in cloud-land, true castles in the air. Thus modern philosophy, having no firm foundation, has become a chaos of dispute, paradox and vain subtleties.

My contention is that philosophy can be rescued from its evident state of decadence and chaos only by finding some way of solving Hume's famous problem of causality. In the failure of Kant and all his successors down to the present day to solve that problem has been the main source of trouble. Thinkers have naturally tended to ignore, to shove aside a principle that seemed to mock at all their efforts to solve or understand it. Many of them seem to have nourished a spite against it. Thus Royce says solemnly: "The unhappy slavery of metaphysicians of the past to the conception of causation has been responsible for some of the most fatal misfortunes of religion and of humanity."[1]

Not having any fear of such a slavery, I propose in this volume to prove inductively that the sole essential function of all thinking is to discriminate between cause and effect; in other words, that there

[1] The World and the Individual, I. p. 444.

is no known form of thought which is not ultimately reducible into an assertion of cause and effect. If I succeed, then plainly to cancel causality is to efface all distinction between truth and falsehood, and thus to render all thinking logically impossible. The argument is in fact a *reductio ad absurdum* in the completest form imaginable. The geometer proves his theorem by showing that its denial would logically lead to the denial of some universally accepted principle, and would therefore be absurd; I prove my theorem by showing that its denial would invalidate *all* principles, efface *all* distinctions, in fine would involve the utter extinction of thought.

Thus we shall reach the solution of Hume's problem, which, according to Höffding,[1] "Kant failed to solve and is indeed insoluble." Hume argued that causation was only the more or less uniform succession of phenomena in space and time. But I shall prove that each word in this definition is in its essence a declaration of causality. The relations severally indicated by each of the words used—more, less, uniform, succession, phenomena, space, time, of, in, and—all rest primarily upon causal relations; and if the latter were eliminated, the words would lose all their meaning. Thus in the very act of denying causality, Hume is compelled to affirm it over and over again.

### *Section 3. The Law of Knowledge*

My fundamental theorem carries with it a very

[1] History of Modern Philosophy, II. p. 58.

obvious corollary. If all thinking is essentially a relating of cause and effect, it manifestly follows that a *cause cannot be known except through its effects, nor an effect apart from its cause.*

Simple and self-evident as this corollary appears, it is of the utmost value for the unraveling of those entanglements in which speculation is perpetually involving itself. As we proceed in our exposition we shall see how many far-famed conceptions in philosophy are but half thoughts, mutilated and worthless because they are attempts to conceive a cause apart from its effects or an effect apart from its cause. Many a dispute has lasted for ages, because one party was stubbornly clinging to a half-thought and the other party to the complementary half, one emphasizing the cause and the other the effect. Take, for example, the most famous and persistent of all these controversies, that between the Eleatic and the Heracleitean school, the former claiming that Being was one, indivisible, immutable, while all appearance of change or motion was due to the deceptiveness of the senses; the latter maintaining that everything is in constant flux, forever transforming itself, its nature a consuming fire. In fine, one school sees the uniformity of cause or causal processes, the other sees only the effects or changes. And yet this dispute outlasted ancient philosophy. Plato was puzzled by it, as his Parmenides plainly shows. And in the Aristotlean theory of knowledge it is again apparent as "a contradiction of which the results run through the entire system of Aristotle."

Turn now to Hegelianism, the most vigorous of all philosophies now extant—unless, indeed, you count "pragmatism" as a philosophy. Hegel begins with that equation which has astonished so many, Pure Being=0. And yet there is no need of astonishment; the equation is but a bald truism. For to Hegel pure being means only an effect isolated from or unrelated to any cause, or as Wallace puts it: "We do not mean *something* which is, but mere IS, the bare fact of Being, without any substratum. The degree of condensation or development when substantive and attribute co-exist has not yet come. The terms and forms of Being float as it were freely in the air; or to put it more correctly, one passes into the other. . . . This Being is immediate, i.e., it contains no reference binding it with anything beyond itself, but stands forward boldly and nakedly as if alone; and if hard pressed it turns over into something else."[1] Now, as a matter of course, such Being as that—for example, a motion apart from anything that moves—is nothing. In fine the whole first book of the Logic is occupied with an inherent absurdity, a mutilated half-thought, to wit, effects that have no cause. And to discover therein paradoxes and self-contradictions naturally becomes an easy task.

To quote from Wallace again: "If the first branch of Logic was the sphere of simple Being in a point or series of points, the second is that of difference and discordant Being broken up in itself."[2] It is

[1] Logic of Hegel, Prolegomena, p. cxix.
[2] *Ibid.*, p. cxxi.

enough here to note two indisputable facts. First, the whole drift of the second book is to identify the effect with its cause; thus we have a series of transformations of causes without any real effects. Second, in the end all causation is discarded as self-contradictory and unreal.

The first and second books, then, vividly illustrate my Law of Knowledge, the impossibility of knowing effects apart from their causes or causes apart from their effects. The third book, based upon the conjecture that the universe is an organism, illustrates the straits to which a thinker is driven after he has discarded the conception of causality.

### *Section 4. The Relativity of Knowledge*

But there is a possible objection that must be considered. It may be said that even if I succeed in proving that the sole essential function of all thinking is to affirm cause and effect, I have not escaped the toils of the Kantian subjectivism. Nothing would be proved except that as our minds are constituted, it is impossible to think otherwise; but other beings with minds differently constituted may think in quite a different fashion. Cause and effect may, after all, have no actual reality outside our fallible human minds.

But understand thoroughly the doctrine here presented, and your objection vanishes; this question of relativity, which has stood unanswered since the dawn of philosophy, is instantly answered. For my doctrine sweeps aside all that swarm of chimeras—

such as innate ideas, intuitions, *a-priori* categories, etc.—that heretofore have made relativity seem so plausible. Dismiss, then, this tangled mass of unproved, impossible assumptions. Conceive thought or reasoning just as science conceives everything else—that is, *functionally*. For, as I propose to demonstrate, the sole essential function of thought or reason is to discriminate between cause and effect; and from this functional point of view the question of relativity becomes superlatively absurd. If you imagine thought or reason after the Kantian style, that is, as a mere medley of innate ideas, or *a-priorities,* flung together at random, no one knows how, whence or why—having no object except to engender false appearances—then indeed relativity becomes highly plausible. It seems almost certain that there must be somewhere some higher order of beings endowed with a higher type of thought or reason, less complicated and cumbersome, leading to something else than universal imposture. But abandon this preposterous and immoral scheme. Interpret thought or reason as you would anything else—according to its known function. Then, if I prove, as I certainly shall, that the sole, essential function of thinking is to discriminate between cause and effect, the question about relativity becomes simply ridiculous. For it is to ask whether there may not be some higher order of reason which is not reason and contradicts reason. It would not be a whit sillier to ask whether there may not be some higher kind of motion which is not motion? Or

some higher kind of a triangle that has four or forty sides?

Furthermore I cite Kant himself, the great high-priest of relativity, as an unwilling witness to the truth of my doctrine. For in trying to prove universal relativity, *he is forced to make an exception of causality.* I do not refer merely to the well-known fact that he describes the thing in itself as the cause of the matter of our sensations. I refer to the much broader fact that he describes the whole phenomenal universe as *caused* mainly by the peculiar constitution of the mind. He forgets that according to his doctrine, causality is merely relative and therefore can tell him nothing concerning the true constitution of the mind. In fine, he uses the idea of cause as real in order to prove that it is not real. In the very act of denying causality, he affirms it.

Note finally that we are here concerned only with the alleged relativity of the causal relation. Other supposed relativities will be discussed later on; and they will be found to vanish, one by one, before this functional view of thought or reason as a relating of cause and effect. The one ruinous defect in modern philosophy is that it is *not* "a city which hath foundations." It hangs in the air with nothing underlying it but such obsolete superstitions as innate ideas, intuitions, postulates, *a-priori* necessities of thought, etc. It needs the insight which Archimedes had long ago: "Give me a place to stand on, and I can move the world."

# CHAPTER II

## CAUSALITY

### *Section 1. Sequence*

THE most surprising feature in Hume's famous polemic against the belief in causality is the extreme tenuity and emptiness of the arguments he was called upon to meet. He spoke the simple truth when he declared that "every argument which has been produced for the necessity of a cause is fallacious and sophistical." Take, for example, Hobbes's proof, which is specially notable, because he more than any contemporary writer bases his philosophy upon the conception of causality. It is as follows: All the points of time and place in which we can suppose any object to begin to exist are in themselves equal; and unless there be some cause which is peculiar to one time and one place, and which by that means determines and fixes their existence, it must remain in eternal suspense; and the object can never begin to be for want of something to fix its beginning." Hume answers to that: "But I ask is there any more difficulty in supposing the time and place to be fixed without a cause than to suppose the existence to be determined in that manner?"[1] Then Hume turns to the proofs given by other distinguished writers, and answers them with equal

[1] Hume's Philosophical Works, Edinburgh, 1826, II. pp. 111-112.

promptitude and ease. Indeed, his task of refutation seems so easy that one wonders why it had not been accomplished long before. Evidently there had been little serious attention given to this most crucial of all philosophic questions. Hume's victory was due largely to the fact that like a skillful general, he had taken the enemy unawares. And even in this inattention we may see some confirmation of my thesis; the concept of causation was so intimately bound up with the whole process of thinking that no one dreamed of doubting its validity. They took it for granted. Hume himself, as has often been noted, unconsciously took it for granted in the very attempt to contradict it.

But many other obscuring agencies, besides inattention, have darkened the conception of causality. The most potent of these agencies perhaps, especially since Kant's day, has been the ethical impulse. The pivot upon which the Kantian criticism turns is the assumption that if causation cannot be proved to be phenomenal or illusory, then "liberty and with it morality must yield to the mechanism of nature." But that view will be considered in my last chapters, wherein I hope to show that the demonstration of freedom and morality is made possible only by the principle of causality rightly understood. Deferring that question then, I turn to perplexities that have sprung from the development of modern science. And first of all, to the degradation of causality into mere sequence.

(1) There are three distinct objections to this se-

quence theory, each one of which is sufficient to overthrow it. First there is Reid's well-known objection that the invariable succession of day and night does not prove that the one is the cause of the other. To that, so far as I know, no serious or satisfactory reply has ever been made. Mill shoves it aside with the curious remark that the conjunction of day and night "is in some sort accidental." . . . "Invariable sequence is not synonymous with causation unless the sequence, besides being invariable, is unconditional."[1] In other words, unless the succession is *caused* by something else. That obviously is to surrender the very point which Mill was trying to dispute. Bosanquet's reply is still more oblique and obscure, a palpable "darkening of counsel" behind a host of words and irrelevancies.[2] Adamson's answer is that increasing experience enables us to discriminate between two kinds of succession.[3] But did the stupidest of savages ever consider day to be the cause of night or night the cause of day?

(2) Reid's objection then is unanswerable. To it I add two others both my own. The first of these is my proof that sequence or succession implies time; and that the conception of time is made possible and intelligible only through the prior conception of cause. But for that proof I must refer the reader to my chapter upon Time.

(3) My other objection is that the uniform se-

[1] Logic, Bk. III. ch. 5, § 5.
[2] Bosanquet, Logic.
[3] Development of Modern Philosophy, p. 320.

quence of events does not even indicate a relation of cause and effect between them. It indicates, rather, that the successive events are both effects of the same cause. In the revolutions of a wheel, for instance, one revolution is not the cause of the succeeding one, and that the cause of the next, and so on indefinitely; but all the revolutions are successive effects of a common cause unlike any one of them. In fine, sequence, instead of being synonymous with, is not even a sign of any relation of cause and effect between the sequent objects. But one error leads to another. And modern philosophy having, under the guidance of Hume and Kant, started out on a false path—the minifying of causality—has been led from error to error into a wild tangle of blunders and perplexities. Some of the chief of these errors I shall consider in the next section.

### *Section 2. Causal Processes*

One of the most signal of scientific triumphs has been the discovery of the marvelous complexity of causal processes. It has revolutionized our view of Nature compared with the ancient view. In the philosophy of Aristotle and of antiquity in general, each effect or change is conceived as the product of some single cause—either of some substantial thing or else of some "occult quality," some force or power hidden within that thing. If anything weighed much, there was an occult quality of heaviness within it; if it weighed little, there was within it an occult quality of "levity." This view prevailed far down into modern times, and was one of the chief

stumbling blocks to scientific advance. Chemistry, for example, until almost the close of the eighteenth century was prevented from becoming a science by the doctrine of phlogiston—a strange substance possessing the still stranger quality of levity or negative weight. But science has finally changed all that. It has learned that an effect is the product not of a single, unitary cause, but of a vast complex of interacting agencies, of a causal process with a multitude of factors.

But the older, pre-scientific view still lingers; for it was long ago crystallized into the usages of common speech and grammar; insensibly it molds our thought—all the more, the less we are aware of it. Hence there is a constant, bewildering conflict between two quite disparate modes of thinking. On the one side the crude primitive view of the single cause; on the other, the scientific, verifiable view of the causal process with its host of factors.

This conflict is largely responsible for the confusion and bewilderment so evident in modern philosophy. Hegel's Dialectic especially is but an artful display of the countless "contradictions" that may readily be evolved by passing back and forth from the crude popular view of cause as single to the scientific view of it as a causal process, an infinite complex of interwoven factors. But in English philosophy we find a more familiar example in the long controversy concerning the plurality of causes. How happens it that the same effect may issue from the most dissimilar causes—death, for instance, from

drowning, or shooting, or disease, etc.? Very curious solutions have been given. Thus one recent writer says: "The total effect in each case is never mere death, but death in some one special shape. A man who is shot and a man who is drowned are both dead; but one is dead with the special symptoms of death by drowning, the other with those of death by shooting."[1] But Mill long ago suggested a less fantastic solution than that, in fact, one very near the truth. "From the different causes of the same effect," he says, "we may be able to ascend to some one cause which is the operative circumstance in them all. Thus it might and perhaps will be discovered that in the production of heat by friction, percussion, chemical action, etc., the ultimate source is one and the same."[2]

Thus in a dim, tentative way, Mill had caught a glimpse of the greatest of scientific revelations—the principle that an effect is the product, not of a single cause, but of a complex causal process combining many co-operating factors. Mill lived to see his prophecy concerning the theory of heat completely fulfilled. But he never fully developed the principle of the causal process of which he had caught a glimpse. If he had developed it, he would have solved that problem of the plurality of causes which baffled him, and other thinkers also. He would have seen that a causal process would remain uniform even if one factor was substituted for another,

[1] Taylor, Metaphysics.
[2] Mill, Logic, Bk. III., ch. 10, §3.

*provided the new factor was precisely equivalent in efficiency to the old.*

*Immanent and Transeunt Causes.* Here we have another perplexity that has sorely distressed logicians. Two of the greatest among modern thinkers, Spinoza and Lotze, have emphatically repudiated all but immanent causes. And some recent writers of repute have gone still further, have converted this difficulty into an excuse for extirpating all causality, root and branch. But let us proceed more rationally. Let us look at the difficulty in the light of the now fully established truth that cause is always presented to us in the form of a causal process. Then the difficulty disappears. We see that the distinction between the immanent and the transeunt cause is made absolutely necessary by the very nature of such a process; for any factor therein in order to be a factor, must at once be acted upon and also act upon the others. In fine, exclusive emphasis upon either immanent or transeunt causes is an error due to not distinguishing between the two modes of regarding causation. If we regard it in the ancient way—as Aristotle did—we shall see causes as mainly immanent: if we regard it in the scientific way, we shall see cause as a complex of transeunt or interacting factors.

*Hegel and "The Notion."* From our present point of view some light, I think, may be thrown upon one of the darkest of the obscurities crowded into Hegel's Logic—namely, the transition from reciprocal causation to the Notion. Hegel's own ac-

count of the transition is confessedly unintelligible —a mere chaos of words without connected meaning. Even McTaggart, who with wonderful skill and patience, has devoted twenty-one years to the study of Hegel, says at this point: "I must confess myself unable to follow this."[1] But as I have already said, the strength of Hegel's dialectic lies in its blind, instinctive groping along the line of a great truth which he has but vaguely comprehended. Especially is that true in the present case. The transition from causality to the Notion can be explained only by means of a principle which I shall demonstrate in Chapter VII—to wit, that the real essence of a notion, concept or universal is the *affirmation of a causal process.* In the second book causality is conceived in the crude, primitive, popular fashion; McTaggart says that "the treatment of Causality presents very grave defects."[2] But in the third book Hegel passes to causality conceived as the Notion, that is, as causal process. Not that Hegel himself explains the transition in that way. In fact, he does not explain it at all, at least intelligibly.

### *Section 3. Uniformity*

But the gravest of all the perplexities concerning causation is the question of our belief in its uniformity. No such problem ever troubled the crude prescientific view of causation; for, to that view, the processes of Nature were not invariable, but a wild

[1] Commentary on Hegel's Logic, p. 194.
[2] *Ibid.*, p. 156; also p. 172 *seq.*

mixture of uniformity and irregularity. In the heavens, according to Aristotle, all was orderly and uniform, except in a few cases like "the wandering" of the planets. But on earth, events were largely fortuitous, and the course of Nature very capricious.[1] To Aristotle the natural was merely that which happened "generally or for the most part."

Modern thought, on the contrary, has insisted upon the strict uniformity of natural causation, but has never been able to offer any conclusive proof of what it so loudly asserts. Mill, indeed, attempted to prove it from a mere enumeration of instances, but his attempt is now generally recognized to have been a failure. Idealists, on the other hand, seem content to take it for granted under the shelter of some such high-sounding phrase as organic unity or an articulated system. But mere assumption, however vociferous, is not proof. Lotze, it may be added, taught that belief in uniformity rested "ultimately upon the *faith* which we repose in the universal validity of a certain postulate of thought.[2] But the age of faith ended long ago.

Here then we have a chasm wide and deep, at the very center of modern thought. And the only possible way of bridging this chasm, it seems to me, is by my doctrine of the causal process. For, in the first place, a process in order to be such must be uniform; in so far as it is not uniform it ceases to be a

[1] De Cœlo, II., ch. 5, p. 1.
[2] Lotze, Logic, p. 503.

process. In the second place, natural processes do not prevent, but through their complexity necessitate that infinite variableness which we behold everywhere in Nature. This second fact is best illustrated and verified by that crowning example, that most perfect type of scientific induction—Newton's discovery of gravitation. In that we have on the one hand a causal process of rigid, mathematical uniformity at work everywhere, without variableness or shadow of turning. And yet on the other hand not a stone falls to the ground as the result of that process, but what its motion varies in each infinitesimal instant both in its velocity and in its direction as regards absolute space. And so everywhere in the most trivial of natural events we have a miracle of uniformity in the process, and a miracle of variation in the result.

Thus my doctrine of the causal process seems to have a double virtue. It accounts at once for that uniformity so dear to modern science and for that variableness which delighted the more æsthetic genius of ancient Greece.

It may be objected that Newton's induction, however important, is but one case among many, and therefore does not fully prove my position. I answer that it is used here more as illustration than as proof. The full proof will be given in the chapter upon induction, where it will be shown that the essence—the long sought for secret of the inductive method—is the discovery and verifying of a uniform process of causation.

### *Section 4. Ground*

Another embarrassment that must be considered is the attempt of some recent logicians to submerge causality under what is alleged to be the wider and truer category of ground. Thus Bosanquet affirms that "Cause is incomplete ground"; and labors through scores of pages to prove it. Taylor following in the same path, says: "The ground is the pervading common nature of the system thought of as identity pervading and determining the character of the details. . . . The fundamental law of knowledge is that whatever exists is a coherent whole."

Now the fountain-head of all these dark sayings is, of course, Hegel's doctrine of the Identity of Cause and Effect. And here I will quote Dr. McTaggart's criticism of this doctrine, since as coming from a life-long student and defender in general of Hegel, it will carry more weight than my own. Hegel, he says, "gives four examples of the asserted identity of Cause and Effect. The first is that rain makes things wet and that the rain and the wetness are the same water." The other three examples I will not quote. Then McTaggart continues: "We must notice in the first place that Hegel only gives part of the Cause. For example, the rain-water by itself will make nothing wet. Unless the clouds are driven over the house, unless the meteorological conditions allow the rain to fall, the roof will not be wet. Nor could the roof be wet if the house had never been built. The wind, the air, the builders of the house are all parts of the Cause,

but they certainly are not identical with the wetness of the roof.

"In the second place, rain is not identical with the wetness of the roof in the sense required here. The rain is detached drops of water falling through the air, the other may be a uniform thin sheet of moisture. They are, from a scientific point of view, different forms of the same matter. But the form is part of the nature of the thing, and, if two things differ in form, they are not identical.

"The other examples show similar defects. And so there are two fatal objections to Hegel's position. He only reaches it, firstly, by taking one Cause of each Effect, although every Effect has many Causes. And, secondly, he only reaches it by assuming that two things are identical if they are formed of the same matter, or if they are of the same value, or have a quantitative equality, ignoring the other aspects in which they differ from one another."[1]

After some further criticism, McTaggart concludes: "Thus we must reject Hegel's theory of the Identity of Cause and Effect. It is curious that it should have proved one of the most popular of his doctrines. It is often maintained by writers whose works show little study of the detail of other parts of the dialectic."[2]

This criticism is certainly impregnable so far as it goes. But there is also urgent need of pricking certain other bubbles that float around this doctrine

[1] Commentary on Hegel's Logic, p. 177.
[2] *Ibid.*, p. 179.

of the primacy of ground over cause. First, it is often argued that judgments of ground and consequence—abstract and mathematical in their character—are convertible, while mere judgments of causality are not so: and this is somehow supposed to give the former a certain prestige over the latter. We can, for instance, convert the proposition, Equilateral triangles are equiangular; but not the proposition, *A* causes *B*. But in truth it is the first proposition that is special and subordinate; the equiangularity and the equilaterality are convertible because they are co-existent effects of triangularity or three-sidedness; in a four-sided figure there would be no such necessary co-existence of these two attributes or effects. Instead, then, of something wider than causality, we have here only a very narrowly limited and subordinate case of a causal relation.

A second argument is that cause refers only to changes in time and space; but ground—in arithmetic and geometry for example—gives us "eternal truths," immutable facts that will hold good everywhere and forever. I answer that their immutableness is *caused* by the very nature of pure space or time wherein there is nothing to cause variation. So here again Cause seems to be the primary, supremely significant relation that makes everything else intelligible.

Lotze suggests a third distinction; causes often counteract each other, grounds never do. But he fails to see that the abstract or mathematical sciences deal only with immutable, homogeneous objects—

space and time—and that these by their very nature exclude counteracting or modifying agencies. And so here again we find that ground thus seems to differ from cause, only because it is limited to one special field, while causality operates everywhere. In a word, ground is but one species of cause.

The doctrine of the primacy of ground over cause, then must be dismissed as an idle dream. It was a pardonable error two or three centuries ago, when mathematics was in the first flush of its wonderful development, when the greatest of mathematicians—Descartes and Leibniz—were also the greatest philosophers. But now it seems but the survival of a superstition.

### *Section 5. Reason and Cause*

Here we have another distinction that has given rise to endless doubt and dispute. Among all the strange arguments upon this question, the strangest, perhaps, is Bradley's. The last three chapters of his Logic are mainly devoted to portraying the contrast, or rather, the utter antagonism between cause and reason. But the gist of his entire argument may be exhibited by quoting one of three illustrations which he uses: "Two coins are proven to have similar inscriptions because they each are similar to a third. But the cause is not found in this inter-relation. The cause is the origin from a common die." But surely this is a foolish fallacy. Here are two effects very different from each other; the one effect is two similar inscriptions caused by a common die; the other

effect is our *knowledge* of this similarity. Of course two effects so different—one psychic, the other physical—could not be the products of the same causal process. But what Bradley fails to see is that although the two processes, knowing and stamping, are different, *still both of them are causal processes.* There is then no antagonism of reason and cause. Reason is but a special process of causation.

The processes of reason, then, are related to causation as a species to its genus. But there is at this point an error possible which must be avoided. We must not identify the psychic processes of reason with the mechanical processes of Nature. They are different species of the same genus; and their differences are any and extremely important. But it is enough here to designate the one great differentiation which to a certain degree includes all the others. That difference consists in *the superior freedom of the psychic processes.* For while the course of physical cause is irreversible, the course of thought is not so. Thought is freer than Nature; its movement is not confined to one fixed direction. It can, if it so wills, follow the course of natural events and from the cause go to the effects. Or it can completely reverse that movement and proceed from effects to their causes. Indeed, this reversed movement is thought's supreme prerogative, the source of its greatest victories. Not by deduction from assumed causes to their effects, but by patient scrutiny of and experiment upon observed results—that is the main highway of knowledge.

This superior freedom of thought, this power of reversal, is very significant: as we shall see hereafter it is the key to some of the gravest problems of philosophy. For the present, it is sufficient to see that both ground and reason are species of which cause is the genus.

### *Section 6. Cause as a Fetish*

But the most effective of all objections to the belief in causality is that given in the oft-quoted words of Prof. Mach: "I hope that the science of the future will discard the idea of cause and effect as being formally obscure; and in my feeling that these ideas contain a strong tincture of fetishism I am certainly not alone." And heretofore this objection has indeed been an insuperable one. For plainly, causation is imperceptible; it cannot be seen or handled or heard or tasted or smelled. And to assume offhand, without even pretending to prove that the human mind is mysteriously compelled by some intuition, or innate idea or *a-priori* necessity of thought to add this idea of cause and effect to what is given, does seem closely akin to the superstition of the savage in regard to his fetish. But if I succeed in establishing my fundamental thesis that all thinking is essentially a relating of cause and effect, then all that will be changed. The belief in causality will no longer be a savage superstition, a mere assumption, a convenient postulate or an unverified hypothesis. On the contrary, it will be the best, the most strictly verified fact within the range of human ex-

perience. Science now accepts without suspicion a host of imperceptibles—ether, atoms, molecules, forces, energy, etc.—because without them it would be impossible to account for many facts that are perceptible. But if my thesis can be proved, then to cancel causality would be to invalidate all facts, erase all distinctions between the true and the false —in fine, make all thinking impossible.

Furthermore, causality instead of being the creature is the destroyer of superstition. For, the source of all illusions, either among the savage or the civilized, is the ascribing of the given to the wrong cause, and the illusion is destroyed by finding out its true cause.

Finally, this revolt against causality springs from an inadequate interpretation thereof. The goal of science, it is declared, is not explanation, but description in exact equations. But the fault in that statement consists in not recognizing that the equations of science are essentially expressions of causality. Ueberweg saw that truth and stated it admirably, as follows:[1] "In reality, the genetic and causal reference is not wanting, as Schopenhauer assumes, in mathematical necessity; if we conceive numbers as arising from combination and separation of unities, and geometrical figures as arising through the motion of points, lines, etc., we become conscious of their genesis and of the causality which is objectively grounded in the nature of homogeneous plurality and spatial co-existence." Nothing

[1]History of Philosophy, II. p. 259, note.

need be added to this statement from the greatest and best-balanced of recent logicians. It authenticates my thesis at the very point—mathematical equations—where the superficial thinker sees nothing but utter contrast to causal propositions.

The quotation above also illustrates the antithesis between Schopenhauer's doctrine and mine. Schopenhauer was very voluble concerning causality; but all that he said tended to degrade it to mere sequence, to make it a minor and illusive phase of Ground.

## CHAPTER III

### ABSTRACTION AND RELATION

### *Section 1. The Fallacy of Resemblance*

ONE of the main sources of error in philosophy is what may be called the fallacy of resemblance. It seems universal in a double sense. First, it obtrudes everywhere, in theories of perception, conception, reasoning and other forms of thought; second, it seems to be equally prevalent in all the rival schools of philosophy.

Why this fallacy should be so widely prevalent is readily explained; it is a survival from prelogical stages of existence. The brutes are just as capable as man of automatically recognizing the similarities of things. Indeed they are often far more capable; witness, for example, the dog tracking the foot-prints of his prey. This instinctive feeling of resemblance or its opposite is prelogical; it is anterior to genuine thinking.

That these feelings of likeness and unlikeness are merely instinctive or automatic is evident at a glance. For the moment we try to formulate any such feeling into an exact, logical proposition, it shows itself to be inchoate, irremediably vague, incoherent and *self-contradictory*. We can affirm of anything whatsoever that it is *like* anything else, and with equal truth that it is *not like* it. How now can this incoherence and self-contradictoriness in-

herent in every act of association of similarities be eliminated, this vague feeling of likeness and unlikeness be converted into a genuine act of thought? I answer, only by developing it into a causal relation; in other words, by pointing out that upon which the likeness or the unlikeness *depends*. Thus two objects may be alike in color; that is, their likeness depends upon an optical process, the conjoint action of solar influences, ether waves, nerve currents, etc. At the same time the two objects may be unlike in other ways, their unlikenesses depending on other causal processes. Thus the prelogical gives way to the logical, to exactitude and definiteness. When the vague self-contradictory feeling of likeness and unlikeness thus evolves into the recognition of a causal relation, then and there only does real thinking begin.

Blindness to this truth, so simple and obvious, has been fraught with disaster to modern philosophy. For all illusionism, whether in Ancient India or in Modern Europe, has had its germ in the fallacy of resemblance; it is impossible to prove that our perceptions are true likenesses or pictures of objects perceived, therefore the world is a dream. Berkeley's thesis, for example, is that external things "whereof the ideas are copies or resemblances are impossible"; and his proof seems little more than an incessant reiterating that "an idea can be like nothing but an idea; a color or a figure can be like nothing but another color or figure."[1]

[1]Principles of Knowledge, Open Court Ed., pp. 33, 34, 37, 39, 40, 41, 44, etc.

Kant's method was somewhat different. Berkeley argues: ideas are not like external things, therefore things do not exist. Kant argues: ideas are not like things; therefore things are unknowable. The difference between the two conclusions seems hardly worth discussing.

Nor did Kant's successors extricate themselves from this ubiquitous fallacy of resemblance. With them, on the contrary, this primal error grows even more and more obtrusive, until it finally culminates in Hegel's philosophy of identity and difference. It is not possible here to follow all the abstruse windings of the Dialectic; instead thereof let me give two quotations from Hegel's eminent disciple and commentator, Dr. McTaggart. His words will be more authoritative than mine. He says first: "But everything is, as we have seen, Unlike every other thing. And it is also Like every other thing, for in any possible group we can, as we have seen, find a common quality. Thus under this category, everything has exactly the same relation to everything else. For it is both Like and Unlike everything else."[1] After dwelling upon objections to this view our author adds: "Hegel maintains that we can only escape this difficulty by finding a Likeness and Unlikeness which are not indifferent to each other. Now if *A* and *B* have a particular Unlikeness, which depends upon their having a particular Likeness, then the indifference, he holds, has broken down. *A* and *B*

[1] Commentary on Hegel's Logic, pp. 112, 113.

are not simply Like and Unlike. Their Unlikeness depends on their Likeness."

Now up to a certain point this view corresponds closely with the one which I have presented; it does so even to the extent of vaguely suggesting that the relation of like and unlike must be converted into a causal relation—one of dependence. But his final explanation that the unlikeness depends upon the likeness is certainly sheer nonsense. A man and a mouse may be alike in being black, they are unlike in many other respects; does Hegel mean to say that all the many qualities in which they differ depend upon or result from their both being black?

And just here, I think, we have the real "secret of Hegel." In repudiating the old logic and its law of non-contradiction, he is supposed by his admirers to have risen to something higher and better. The fact is that he remains standing at a lower level than the logical. His philosophy of identity and difference never rises above those prelogical stages of mentality which are governed by mere feelings of likeness and unlikeness. And in that realm of the prelogical all is inevitably incoherent, ambiguous and self-contradictory. That is the reason why Hegel finds it so evident that "contradiction is the moving spirit of the world."

## *Section 2. Abstraction*

Another devolution in modern philosophy seems to be a growing antipathy to abstraction. Such a feeling, indeed, has always widely prevailed; for, to

abstract is to think, and thinking is very hard work for which men generally have but little love. But this antipathy reaches its climax in the Speculative Logic; the universe, we are there told, dissolves into a mist of self-contradiction, because we insist upon abstracting or isolating its parts. For example, throughout Bradley's Logic, everything appears to hinge upon the singular claim that to abstract is to mutilate. We are told that "all analytic judgments are false." Why? Because in judgment we must abstract, and in abstracting, "we have separated, divided, abridged, dissected, we have mutilated the given."

(1) Now upon its very surface such a statement shows an error so glaring as to seem almost wilful. It confounds the mental act of distinguishing with the physical act of dividing or separating. Viewing an apple, for instance, I note its red color. But in so doing, I certainly am not cutting the apple into two parts, but am merely fixing my attention upon one of its many attributes. The only imaginable excuse for such confusion of thought is, that the idealist, since he effaces the contrast of thought and things, cannot recognize any difference between distinguishing and dividing. That may explain the confusion, but it does not justify it. Your denial of material things is a singular reason for changing the mental act of distinguishing into the dividing or mutilating of things.

(2) In a later work, our author reiterates his theory in another form of words. "For ideality lies

in the disjoining of qualities from being. . . . The main point and essence is that some feature in the *'what'* of a given fact should be alienated from its *'that'* so as to work beyond it, or, at all events, loose from it. . . . The essential nature of the finite is that everywhere, as it presents itself, its character should slide beyond the limits of its existence."

This new form of statement serves to disclose a still more fatal defect in the theory than that of hypostasizing. It does not and cannot explain why the human mind in all ages, in all its development of language, grammar, logic and science has persisted in this "disjoining of quality from being—or more properly this differentiation of the thing from its attribute. But my thesis gives a ready, clear and incontrovertible answer to this question of the why. It presents the abstracting act, the distinguishing of thing from attribute as essentially a distinction of cause from effect. But as was shown in the previous chapter, the thing is not the sole cause, it is one factor in the process producing the attribute or quality. The quality then is not disjoined, divided or cut loose from the thing; *and yet it is rightly distinguished from the thing by its relations to the other factors upon which it depends.*

(3) Again, my view of abstraction as a discriminating between cause and effect unravels another enigma. We have just seen that the view explains why the thing and its attribute are rightly regarded as different: it explains also their unity, their insep-

arableness. For, as I have already pointed out, the grand peculiarity of the causal relation—one shared by no other relation known to thought—is that in the very act of differentiating, it also unites. If I divide a thing, split a log or a stone, it remains divided; but if I think of *A* as the cause of *B;* in the very act of thus distinguishing between them, I at the same time connect them together by the closest, the firmest, of all bonds. Precisely in this way, abstraction sets apart and yet unites the thing and its attribute.

(4) Bradley also complains that in abstracting you destroy that vital interconnection of things which is their life. On the contrary, without abstraction we should have remained eternally ignorant that there was any such vital interconnection of things. Every attribute abstracted and studied reveals itself as the product not merely of the thing qualified, but of a vast complex of cosmic forces. Thus instead of being destroyed, the vista of interconnection is constantly being enlarged and illumined.

Finally, this antipathy to abstraction is but another phase of the same tendency we have described as the fallacy of resemblance. This is clearly evinced in Berkeley's well-known avowal: "I find indeed I have a faculty of imagining or representing to myself the ideas of those particular things I have perceived and of variously compounding and dividing them. I can imagine a man with two heads. . . . I can consider the hand, the eye, the nose

each by itself abstracted or separated from the rest of the body. But then whatever hand or eye I imagine it must have some particular shape or color, etc." Berkeley then denies abstract qualities, solely because he cannot imagine one. In other words, because he has never seen one; for, to imagine is to recall memory-images of what we have perceived. And Sir Wm. Hamilton, although claiming to be a realist, here agrees precisely with Berkeley: "A concept cannot be represented in imagination," therefore, "it cannot be realized in thought." Both philosophers deny the reality of whatsoever cannot be hypostasized into a memory-image or picture *resembling* what they have actually perceived.

### *Section 3. Relations*

I must also consider Bradley's celebrated dictum that all relational modes of thought give appearance and not truth. For, that doctrine, if true, would shatter my thesis at one stroke. Furthermore, his argument, I think, has never been conclusively answered. Nor can it be except from our present point of view.

(*A*) Note first that Bradley argues against all relations indiscriminately; he cuts them all down together with one sweep of his dialectical scythe. But I have already shown that there is an immense contrast between the different kinds. Relations of mere likeness or difference are prerational modes of psychic activity; they are vague, incoherent and in their very

nature self-contradictory. With equal truth we can say of anything whatsoever, that it is *like* and *not like* anything else in the universe. And since Bradley does not distinguish between the different kinds of relations possibly his argumentation applies only to these weak, flimsy pseudo-relations whose very essence is self-contradiction.

And precisely that proves to be the case. Of course, I cannot quote here the score of pages over which Bradley expands his argument. But let the reader search for himself; he will find that from first to last the only relations which Bradley considers are those of likeness and difference. Even when confined to these, his argument is not valid, as we shall see later. But even if it were valid of them, it is a monstrous leap from these vague, self-contradictory pseudo-relations to *all* relations.

(*B*) But let us go a little further. Remember that in the first section already mentioned, I have shown that the crude, vague, self-contradictory pseudo-relations of likeness and difference can be converted into genuine, definite and self-consistent relations *only by transforming them into causal relations.* To do this we must point out and emphasize that upon which the likeness or unlikeness *depends.* Thus two objects may be alike in respect to color, that is, their likeness depends upon an optical process; at the same time the two objects may be unlike in some other respect, their unlikeness resulting from some other cause. Thus by simply stating that upon which the likeness and the difference sev-

erally depend, the vague and self-contradictory is converted into the definite and coherent. And then only does real thinking begin.

Now in the light of this manifest truth let us examine the only argument, I think, in which Bradley considers relations in general, and not merely those of likeness and difference. It is borrowed from Lotze by the by, and is as follows: "(*a*) The relation is not the adjective of one term only; for if so, it does not relate. (*b*) Nor is it the adjective of each term taken apart; for then again there is no relation between them. (*c*) Nor is their relation their common property; for then what keeps them apart? They are not two terms because not separate."[1]

Now the last two horns of this trilemma, (*b*) and (*c*), are obviously false *when applied to a causal relation.* For as to (*b*), the two terms *are* qualified apart, the one as cause and the other as effect. And yet they are united by being causally related. And as to (*c*) their causal connection *is* the common property of both terms: and yet they are two terms kept apart or distinguished by this very property.

In fine Bradley's famous trilemma is through and through a fallacy due to his utter failure to comprehend the real nature of a causal relation. For the gist, the essence, the deepest, most significant and valuable characteristic of a causal relation is just this—*a causal relation enables us to distinguish between two terms as cause and effect; and yet by this*

[1]Appearance and Reality, p. 32, note.

*very distinction the two terms are united by the firmest, the most enduring of all bonds.*

I do not emphasize this view of causality so strongly, merely to break down Bradley's paradox; we shall find other flaws equally fatal in his argument. But this insight into the nature of causality as at once differentiating and integrating is new; it has been attained by no other thinker so far as known to me. And we shall recur to it again as solving still other problems besides the present one, that have heretofore perplexed and baffled philosophy. Hence the present emphasis upon it.

(*C*) But to return to Bradley; his argument is ruined by still another defect. It takes account only of relations supposed to subsist between qualities. But the real relations of qualities are to the things or processes from which they result; to each other they have only the pseudo-relations of likeness or difference. Thus his argument while pretending to include all relations whatsoever is doubly defective; it is limited to relations between qualities, and even there further limited to mere relations of likeness and difference. And as we have already seen, nothing is easier than to find self-contradiction in such pseudo-relations. For their very essence is self-contradiction.

(*D*) And yet, strange to say, Bradley's argument does not accomplish even that easy task. It is subtile, ingenious, and bewildering, but it proves nothing. He asserts first that there is "a diversity which falls inside of each quality. It has a double

character as both supporting and being made by the relation." Now each quality may be loosely or figuratively said to "support" its difference from some other; but it is mere foolishness to say that it is "made" by that relation. Redness is made not by its difference from green, but by the optical process of refraction.

But Bradley, like Hegel, knows that almost anything will be believed if you repeat it often enough and with sufficient audacity. So he adds: "It may be taken as at once condition or result, and the question is how to combine this variety." Now doubtless each term is a condition of their difference; if the qualities did not exist there would evidently be no difference between them. But it is absurd to say that each quality is the "result" of its difference from the other. Weight and color are quite different, but neither of them results from that difference.

(*E*) Bradley has still another line of argument. He insists that the relation being something itself "must bear a relation to the terms. And thus we are forced to go on finding new relations without end. The links are united by a link, and this bond of union is a link which also has two ends and these require each a fresh link to connect them with the old." It is very important, he urges, that the relation should be conceived as "a solid thing"; for "if you take it as a kind of medium or unsubstantial atmosphere, it is a connection no longer." All this is plainly the hypostasizing of abstractions carried to the climax of absurdity; but as the critics in general

have recognized and ridiculed it as such, I leave it to them.

(*F*) But in the Appendix to his second edition there is a single paragraph which seems to have a purport altogether alien to the general drift of his book—to be in fact a strangely prophetic vision of what I am striving to establish in this volume. Let me quote it in full.

"The remedy might lie here. If the diversities were complementary aspects of a process of connection and distinction, the process not being external to the elements, or again a foreign compulsion of the intellect, but itself the intellect's own *proprius motus,* the case would be altered. Each aspect would be of itself a transition to the other aspect, a transition intrinsic and natural at once to itself and the intellect. And the whole would be a self-evident analysis and synthesis of the intellect itself by itself. Synthesis here has to be mere synthesis and has become self-completion, and analysis, no longer mere analysis, is self-explication. And the question why and how the many are one and the one is many here loses its meaning. There is no how or why besides the self-evident process, and towards its own differences the whole is at once their how and their why, their being, substance and system, their reason, ground and principle of diversity and unity."[1]

In that paragraph my fundamental thesis is roughly outlined. (1) For cause and effect are complementary, not contradictory aspects: each im-

[1]Appearance and Reality, p. 568.

plies the other. (2) They are aspects, too, of a process of connection and distinction; for the gist of a causal process, as we have seen, is that by the same stroke it at once unites and differentiates. (3) Nor is this principle of causality a foreign compulsion of the intellect, but the intellect's own *proprius motus;* in other words, it is the intellect's sole essential function, its very nature, life or soul. (4) Indeed Bradley himself has on page 562 explicitly defined this *motus* as the same thing as ground or reason. (5) Furthermore, "each aspect would of itself be a transition to the other aspect, a transition intrinsic and natural." What is that but the corollary to my thesis—to wit, that the cause can be known only through its effects and conversely the effects through their cause. (6) The next statement concerning the blending of synthesis and analysis can be verified—as I shall show—only by interpreting judgment as a relating of cause and effect. (7) The last two sentences give a rather hazy version of the simple truth that the one is the cause of the many, and the many are the effects of the one.

But on the next page Bradley rejects this principle which he admits would solve his chief perplexities, and the reason he assigns is that the principle is not "self-evident." That I freely admit; self-evidence is a mere asylum for mental decrepitude. No! the principle of causality is not self-evident. Nor is it given by sense; it cannot be seen, heard, tasted, smelled or handled. How then can it be veri-

fied? Only in one way; if it can be proved that the relating of cause and effect is the one essential function to which all thinking can be reduced, then to cancel causality is to render all thinking impossible.

# CHAPTER IV

## THE NEW REALISM

### *Section 1. Substance*

I SEEK now to outline roughly the new realism which is surely coming, to put an end to the present philosophic chaos. Let us begin by considering two errors that have obscured and almost destroyed the realistic conviction. The first of these is an erroneous view of substance; the second, what may be fairly described as pseudo-realism. This section will be devoted to the first of these hindrances.

Three of the greatest of modern thinkers, Descartes, Spinoza and Leibniz, have based their several systems of philosophy upon the conception of substance. All three seem to have been striving after a realistic and rational conception of things; all three, it is generally conceded, failed to attain their end. The first named was accused by Kant of problematic idealism; the second, according to Hegel, taught acosmism; the third landed in the vagaries of pre-established harmony. And their common failure, I think, was due to a common cause. They all had a defective and misleading conception of substance. They did not give it its proper place in the scale of categories; they all regarded it as the primal, the supreme and all-inclusive category. But that it cannot possibly be—at least if I am right in my contention that the sole, essential function of thought

is to discriminate between cause and effect. Causality therefore is the supreme, all-embracing category: all others—including substantiality—are but species under this one genus, derivative forms that must always be subordinated to the causal principle in which they are rooted. But the great thinkers just named did not see this. In making Substance the paramount principle they robbed causality of its rightful primacy, made it secondary, minified it almost to the vanishing point.

The case of Spinoza is the most remarkable, because on the surface he seems to magnify and exalt the idea of cause; indeed, to that seeming is due all the glamour investing his system, despite its many defects. But look deeper and you see that by cause he means nothing but ground and consequence, or the merely logical connection between premises and conclusion. Time is a delusion; all real knowledge must be "under the form of eternity"; change is a dream; the only actual relations are those eternal, immutable ones that interconnect mathematical ideas; in fine, Spinoza has abolished the fact of causality except in this its most emasculated, shadowy and dubious form.

This same minimizing of causality appears in Spinoza's denial of all but immanent causes. And his error here amounts to far more than merely effacing one of the two kinds of causation; to erase interaction is to blot out all immanence: for nothing finite ever acts save in co-operation with other

agencies. Finally, even God as conceived by Spinoza is not a cause in any proper or usual sense of the term: He is merely the substratum of things, the innermost substance of the universe.

Leibniz pulverizes the One Substance into an infinite host of monads; nevertheless he agrees with Spinoza in belittling causality. There are, he teaches, two kinds of knowledge, truths of reason and truths of fact. The former are necessary and ruled by the principle of identity; the latter are contingent and ruled by the causal principle. But these latter or contingent truths are not really true; dealing only with spatial and temporal relations, they are but "confused ideas," fictions, dissolving views; they explain nothing, but merely show one fact as dependent upon another, and that upon another and so on in infinite regress. Leibniz's God also, like Spinoza's, is no cause in any proper sense of the term; He seems to be merely a name for the pre-established harmony of the monads. In fine, as his disciple Wolff rightly taught, Leibniz's two principles are not independent; the causal one is but a pale shadow, deduced from and subordinate to the principle of identity.

Both these immortal thinkers, then, share a common defect; causality with both is depreciated, reduced to the vagueness and inefficiency of ground and consequence. And that is the ultimate reason why both fail. Spinoza, indeed, seems dimly conscious of this defect. For, throughout his exposition, there is an evident wavering between two ways

of regarding substance. On the one hand, he considers it as purely indeterminate and abstract being, such as can be characterized by no positive mark; any determination would infringe its absoluteness. "But we can in no way pass from this pure indefiniteness to the determinate activities that are requisite in order that substance should be real. Accordingly Spinoza as frequently treats substance as the sum of possible reality which cannot be exhausted in any one attribute, and which contains all possible perfection and reality. But both cannot be retained and united. . . . A substance or ground of existence which is but the negation of all finite existences, can in no way serve as their bond of union."[1]

In Leibniz the wavering and inconsistency are equally obtrusive. He is accounted the great apostle of Force, and yet all real connection and interaction of things are denied. Whatever happens in the windowless monad comes from it alone; it is like a separate world, self-sufficient, independent of every other creature, embracing the infinite, expressing the universe. From this infinite disconnectedness, there is no escape save through the strange device of the pre-established harmony.

Viewing these facts, we may well say with Russell: "It became necessary to base metaphysics upon some other principle than that of substance, a task not yet accomplished."[2]

[1] Adamson, Development of Modern Philosophy, pp. 65, 66.
[2] Russell, Philosophy of Leibniz, p. 126.

But from our present point of view that task does not seem very far from accomplishment. We have shown that Spinoza and Leibniz failed, not because their principle of substance was false or empty, but because they gave to it a primacy that did not belong to it; in other words, because they failed to subordinate it to that higher and wider category of cause and effect from which all other categories are derived, and by which they are modified. To that primal error can be traced back almost all the other main errors in those two masterpieces—the philosophy of Spinoza and that of Leibniz. Here I can mention only three errors of each—the three that have most influenced modern speculation.

(I) Beginning with Spinoza, we have first his doctrine of the indeterminateness of substance. That holds only if you regard substance merely as that in which attributes inhere; then, indeed, it is an empty abstraction. But not so, if you regard it as a factor in countless causal processes, as I have explained in chapter II.

(II) The second error is the doctrine that determination is negation. This is so closely allied with the first that we need not dwell upon it. Remember, however, that it was taken over by Schelling and Hegel, in fact, is the very corner-stone of the latter's system.

(III) The third is the doctrine of God as substance. That, if substance means mere inherence, is crude pantheism at its worst. But if infinite sub-

stance means an infinite and complete Cause, you have the purest theism.

(IV) Leibniz's first error is the absolute disconnectedness of the universe. But all that is changed when we put cause in the place of substance. For, as I have already pointed out, the essence of causality consists in at once distinguishing and yet uniting by the firmest of bonds.

(V) Another error of his was the negation of Space. But instead of space being "a confused perception," as Leibniz taught, it will be shown in the next chapter that the real confusion lies in confounding two very distinct objects—space and the spatial properties of things, related as cause and effect.

(VI) The third and suicidal error is the virtual effacement of substances. According to Leibniz, substance after all is but the sum of its attributes. The diamond is but the extension or diffusion of hardness; milk the extension of whiteness, etc. That doctrine forms the transition to the second phase of modern philosophy and will be discussed hereafter.

Here then we have the six elemental features, or errors of two renowned systems of thought. All of them have been seen—or will be shown to be readily surmountable when we subordinate substance to cause as the supreme category. In other words, when we think of the relation between substance and attribute as causality instead of inherence.

### *Section 2. Pseudo-Realism*

Just now there seems to be a rising tide of revolt against idealism. But there is great danger that this revolt may prove to be but a reactionary movement, a mere relapse into materialism. For, as we have already shown in part and will more fully prove hereafter, the only safeguard against so dismal a result lies in keeping the principle of causality paramount and supreme above all others. But, so far, modern realism has never been able to break loose from its enchainment to Hume's great paradox, the reduction of causality to mere sequence. That is notably evinced even in the case of Reid, the greatest of modern realists. Reid saw very clearly that Berkeley's idealism rested wholly upon the old superstition that thoughts were images or pictures of things perceived; with all the skill and power of genius he set to work to overthrow this pictorial philosophy, and succeeded so well that even idealists have now generally abandoned it. But this accomplished, he had nothing else to put in its place except another equally empty assumption—the infallibility of common sense. He had so far succumbed to Hume's influence as to reject the true basis of realism; at least, he denied efficient causality to unconscious things. "I perceive the walls of the room where I sit," he writes, "but they are perfectly inactive and therefore act not upon the mind."[1] Having thus put out the light of causality, everything becomes for him darkness and mystery. We neces-

[1] Reid, Intellectual Powers, II. p. 219.

sarily affirm the existence of external things, but "by an act which cannot be defined." Or again; By what rules of logic we make the inference (of externality) it is impossible to show; nay, it is impossible to show how our sensations and thoughts can give us the very notion either of a mind or a faculty."

Or, as another would-be realist, Rosmini, has said: Reid denied the intervention of any "idea" between the object perceived and the perceiving subject; so he had to answer "the formidable question—How can I judge that a thing exists of which I have no idea? The answer to this question would have led the Scottish philosopher very far in his investigations; but whether it was that he despaired of finding it, or that he considered it of no importance he did not even seek for it. He contented himself with enveloping his 'original judgment' in a cloud of mystery, thus, possibly, to screen it from all further questionings on the part of inquisitive minds."[1]

But how now does Rosmini himself prove his own realism? By resurrecting the long ago dead and buried doctrine of innate ideas. Or rather of one innate idea, that of existence or indeterminate being. By simply applying this idea of existence to our perceptions, a controversy that has lasted more than twenty centuries is suddenly ended. So, at least, Rosmini imagines.

Sir Wm. Hamilton's philosophy seems another

[1]Rosmini, Origin of Ideas, I. p. 86.

conspicuous example of what realism ought not to be. Its three main features are these; first, the assumption contradicted by both physiological and psychological science that we have an immediate awareness of external things; second, the paradox that different persons gazing at the sun will each see a different sun; third, uncertainty whether a thing is anything more than the sum of its qualities. These three, I think, are the chief water-marks of pseudo-realism.

And in more recent attempts at realistic speculation these three water-marks become even more obvious. Hobhouse, for instance, writes an immense volume in defense of realism; but toward the end openly asserts and argues through a long chapter that things are but sums of abstract qualities.[1]

The signs, then, for a genuine realism seem hardly encouraging. But the old adage is true, I hope, that it is darkest just before dawn.

### *Section 3. First Proof of Realism*

My first proof rests upon a right understanding of the relation between substance and attribute. To gain such an understanding we must get rid of Berkeley's doctrine that the substance is nothing but a name for the sum of its attributes.

(1) It has already been shown in the preceding chapter that Berkeley's speculation rests upon two enormous errors—the fallacy of resemblance and the cancelling of abstraction. And these two are

[1]Hobhouse, Theory of Knowledge, p. 556, note.

branches of one stem. For to expunge abstraction is virtually to destroy all thinking; it is thoughts' suicide. And the fallacy of resemblance—reasoning from likeness and unlikeness, identity and difference—is, as was shown, a reversion to prelogical modes of apprehension. Thus genuine thought, by these twin errors, is doubly annihilated. Hence Berkeley's entire argument rests upon what is really the extinction of thought.

(2) But interpret now the relation of substance and attribute as the nature of thought demands—to wit, causally. In other words, conceive the substance or thing as the central, the specifically determining factor in each and all the causal processes, whereby the various attributes are produced. Instantly light begins to dawn. For example, Berkeley starts from the archaic, the thoroughly false view of the thing as the hidden substrate which supports the qualities. It becomes then easy for him to show the emptiness of such a view and so to shove aside the substance as an idle dream. "Now I desire that you would explain to me what is meant by Matter's supporting extension. . . . It is evident 'support' cannot here be taken in its usual or literal sense—as when we say that pillars support a building; in what sense therefore must it be taken?"[1] That question, to him unanswerable, is the cornerstone of Berkeley's renowned philosophy.

What the attributes need to make them intelligible is not a support but a real bond of union. But

[1]Berkeley, Principles of Knowledge, § 16.

Berkeley, it may be urged, supplies such a bond by postulating a God who produces and combines our sensations. Well! doubtless God is the cause of all. But He is made known to us only through the uniform methods, the causal processes which He has established for the production of natural results. And Berkeley makes that knowledge impossible. For, he dissolves the visible universe into a mere aggregate of sensations, evanescent, disordered and often deceptive, produced in the individual mind by God's direct action upon it. All intervening agencies, all things that make for the stability, the order and harmony of the cosmos, are swept aside as mere illusions. Nothing is real but the turmoil of our private sensations. And from that chaos you can no more prove the existence of God than of "the man in the moon."

(3) Another great source of illusionism is its complete misapprehension of the relation between thought and sense. This defect is germinal in Berkeley, but full-blown in Kant; and so we turn to the latter's philosophy to study it. One main outcome of persistent thought must evidently be the detection of those deceptive agencies that hover everywhere over the field of sensation. For, an illusion is simply the ascription of an effect to the wrong cause; and the essential function of thought is to relate effects to their true causes. Now in Kant's time, the critical, inquiring spirit of modern science had already unmasked such a host of illusions that all Nature seemed to be thronged with

them. But for him this new awakening to the deceptiveness of the senses took a curious and fatal form. Apparently he did not see that the senses were the source of deception, and that the grand prerogative of thought was to overcome them. On the contrary, the mind seemed a mere nest of *a-priorities* that prevented man from ever knowing things as they really were. Thought once deemed divine, became satanic, the father of lies. And obviously from this Kantian view, it was but a short step to Hegel's theory of universal self-contradiction; for, in the long run, all liars contradict themselves.

Now what proof does Kant offer for this amazing doctrine of universal, irremediable illusion? Simply this; he claims to have found a large number of elements—twelve categories, two forms of sense, and sundry others—which are indispensable in all right thinking and knowing, and yet are not given in any sensible experience; hence we must regard them as innate ideas or *a-priori* necessities of thought; as such, they are purely subjective, merely our human ways of thinking which can give no true insight into the outer realm of reality.

But against these assumptions, which prove nothing, I urge four facts that together seem to me to outline the real relation of thought to sense. (*a*) Thought does not alter experience, but simply interprets it. (*b*) There are no innate or *a-priori* ideas that can be verified as such, nor is there any need of any. (*c*) To what is given by sense, thought adds nothing but itself—that is, its essen-

tial activity as a relating of cause and effect. (*d*) And the goal of that activity is not, as Kant supposes, to create illusions, but to discover and destroy them.

(4) The question of universals will be fully treated in Chapter VII. Here I briefly notice a special phase of that question upon which the objectors to realism have most relied. For this purpose I turn to Bradley and begin with a passing reference to his famous puzzle concerning predication. "If you predicate what is different, you ascribe to the subject what it is *not;* and if you predicate what is *not* different you say nothing at all." I answer that to predicate or think is to assert a causal relation; and, as I have so often shown, the very essence of such a relation is to at once differentiate and integrate. Hence the subject and predicate are differenced as being one the partial cause, and the other the effect; and at the same time they are integrated by the causal bond. Bradley's revival of the foolish Megaric quirk that the copula means identity I forbear to notice. But in his account of Ideality we come more directly to the question of the universal. "The real has two aspects, the 'that' and the 'what'; and thought seems to consist essentially in their division. . . . For ideality lies in the disjoining of quality from being. . . . The main point and the essence is that some feature in the 'what' of a given fact should be alienated from its 'that' so as to work beyond it or, at all events, loose from it."[1] Similarly,

[1]Appearance and Reality, p. 163.

the one point around which his treatise upon Logic mainly revolves is his description of universals as "wandering adjectives" cut loose from reality—"mutilated, dissected, torn from that vital interconnection of things which is their life."

In all the eccentricities of mediæval realism there is nothing so absurd as that. The schoolmen, at least, understood the scope and significance of the problem of universals; and that by itself was a great step forward. They say that thought expresses by universals what sense gives only as particulars. But what justifies thought in making so great a transformation of the given? And how can universals be a true representation of anything so different from them as particulars? The whole problem of the certainty and value of knowledge turns upon these questions. But Bradley loftily waves them aside with a metaphor and a scornful epithet. The predicate, he says, has worked "loose"; it has become a "wandering adjective." But interpret this universalizing causally; conceive the predicate as an effect of a causal process wherein the subject is the central factor. We see then first that the predicate to be known at all must be a universal—an oft-repeated effect; for an effect could not be known as such, if it never appeared but once. Second, the quality in being thus universalized is not, as Bradley imagines, alienated, divided or torn loose from its being. On the contrary, the two are brought into the closest of all possible relations to each other.

To say that the quality is occult or inherent on the substance is a mere mumbling of words without meaning. But the quality conceived as an effect is most intimately related with that upon which its being depends. Furthermore this relation is a verifiable one, in the strictest sense of the term. Our organs of sense form a natural laboratory wherein thought is continually verifying these causal relationships.

Third, least of all, is the predicate "mutilated, torn from that vital interconnection of things which is their life." The exact opposite to that really happens. The predicate or quality by being universalized has its vital interconnection illumined and immensely expanded. A color, for instance, is conceived not merely as a vague somewhat inherent in the colored thing, but as in interconnection with all that vast process of causation whereby color is produced.

We have now examined the three principal arguments for illusionism, severally presented by Berkeley, by Kant and by the Neo-Hegelians; and we have found them all to be nugatory. We have further found that when they are properly interpreted in the light of our causal principle, they turn into solid arguments for the realistic theory. That is my first proof of realism.

### *Section 4. Second Proof of Realism*

My second proof consists simply in showing that the denial of a real world of things leads inevitably

to utter nihilism—to the complete extinction of thought.

(1) For such a denial logically involves the destruction of your belief in your own existence. Descartes boldly asserted that whatever else one doubted he could not doubt his own existence; but that was a sheer assumption made in despair of finding any other basis for his philosophy; and for the same reason it has been re-echoed by most other theorists. Obviously, however, the self you believe in is mainly your bodily self; in fact, the majority seem now to reject the soul as a mere survival of savage animism; and certainly you would not claim that your body existed, while all the rest of the world did not.

(2) But the idealist will object that even if we discard the soul, we cannot doubt the existence of the stream or series of sensations. I answer that just there our ignorance seems to culminate. *For no sensation has any discernible attribute of its own by which it can be discriminated from any other sensation.* We discriminate them from each other only by means of the attributes of the spatial objects perceived. This is true of the grand divisions of our perceptive activity. How could we distinguish between sight and touch, for instance, except by reference to the external organs whence they issue? Still more manifest is this in regard to each particular sensation. The sensation produced by a round object is not itself circular. The sensation of a mountain is no taller than the sensation of an ant-

hill. The sensation of a red object is not itself painted red.

Others have noted this unknowability of the sensation apart from the object perceived, although apparently without recognizing its extreme significance for the theory of knowledge. Thus Brentano says: "We find no contrasts between presentations except those of the objects to which presentations refer. Only so far as warm and cold, light and dark, a high note and a low one form contrasts, can we speak of the corresponding sensations as contrasted; and in general, there is in any other sense than this, no contrast within the entire range of these conscious processes."[1] So Adamson observes: "Only through the character of that which is apprehended and referred to the objective, does the subject, the inner life receive definiteness of meaning still more explicit."[2] And Hume says: "Nature has taught us the use of our limbs without giving us the knowledge of the muscles and nerves by which they are actuated." There is nothing strange or anomalous in the fact that we are similarly ignorant concerning the sensations by which we attain knowledge of the outer world.

Evidently then to abolish the outer spatial world renders all knowledge impossible of the inner world of thought and feeling. For, of this inner world that which seems most certain, clear and distinct—namely, our sensations—is utterly un-

[1]Psychologie, I. p. 29.
[2]Development of Modern Philosophy, p. 291.

known to us apart from our knowledge of external things.

But you object that Kant has overcome this difficulty by his happy surmise of *a-priori* forms which objectify or spatialize our inner sensations. On the contrary, Kant has merely piled two other mountains of difficulty on the top of the first one. First, we have the original difficulty, the unknowability of sensations; second, Kant adds to this another and greater difficulty that things are also unknowable; thirdly, on top of these he places a still more stupendous difficulty—to wit, that the mind unconsciously, without knowing what it does and acting upon things of which it knows nothing, yet somehow miraculously transmutes them, giving form to the formless, and permanence to that which had no duration. Surely Kant is the best of witnesses to the truth of my contention that denial of the spatial world is the extinction of thought.

Or do you urge that this subjective idealism has now been generally abandoned and absolute idealism put in its place? I answer that the latter still more openly testifies to the truth of my contention. For Hegel's Absolute, when closely scrutinized, turns out to be nothing but the "Totality" of all self-contradictions. His philosophy is literally an apotheosis of self-contradiction, "Contradiction is the moving spirit of the world." If that is true, then knowledge is certainly impossible. You can never attain to knowledge or even to rational thought by piling up self-contradictions, one on top of the other; for the

more you have of the latter, the less you will have of the former.

But Hegel's Dialectic proves, you protest, that this self-contradictoriness gradually diminishes—slowly evaporates, as it were—in the successive stages of mental development, until it finally disappears altogether in the Totality or Organic Whole. That, however, merely adds two more absurdities to the one noticed above. First, the idea of diminishing degrees of contradiction is a preposterous one; for a self-contradictory statement destroys itself; it states nothing and is nothing; and one nothing can be neither greater nor less than any other nothing. Second, the final evaporation of the self-contradictoriness into a self-consistent Absolute or Totality is still more nonsensical. Hegel's only argument here is that the Totality must be self-consistent, because there is outside of it no other Totality to contradict it. But would an Alexander Selkirk with his mind filled with maniacal and conflicting ideas be self-consistent merely because there was nobody else on his lonely island to contradict him? Hegel thinks that he would.

Such then is my second proof of realism. First, it shows that the cancelling of the spatial world renders all knowledge—even that of our own existence—impossible. Second, that both forms of idealism, when closely cross-examined, corroborate that conclusion.

### *Section 5. Third Proof of Realism*

It would seem that I might rest content with the rigor and conclusiveness of the two proofs already presented. But to do so would lay my entire theory open to a very serious objection. Indeed, from the dawn of Greek philosophy down to the present day, it has been the fate of realism to be worsted, not through the weakness of its own positive proofs, but by the ingenious sophistries devised against it.

Now, it may be said, that my view does not essentially differ from the familiar doctrine of the Unknowable Cause. It is this objection which I seek here to meet and to convert into a third proof of realism.

Cause has often been pronounced the vaguest of terms; "it appears at one time as a thing or object in space; in another as a prior phenomenon; and again, as a definite force identical with neither. In assigning the cause of the daily tides—for instance, you may name the *Moon,* or the *rotation* of the earth or the *gravitation* of the related masses."[1] Thus confusion arises and endless controversy; Sigwart insists upon the causality of substance and argues strenuously against Wundt, who prefers a phenomenal cause. Mill reduces causes to "permanent possibilities"; Kant, to the unknowable thing in itself. Schopenhauer makes Force supreme and cause subordinate thereto. And this war of words still goes on.

But the doctrine of the causal process ex-

[1]Martineau, Studies of Religion, I. p. 131.

pounded in Chapter II puts an end to these verbal contentions. It shows that neither the idea of substance, nor of phenomenon, nor of force is synonymous with that of cause, that on the contrary they are but co-operating factors within the causal processes of Nature. Let us consider them in the order named.

(1) Concerning substance I may seem to have said enough in the first section of this chapter. But there was one feature of that theme, and the most important one, which I there omitted to mention with the express purpose of using it more effectively here. I proved there that the fatal flaw in the philosophies of Descartes, Spinoza and Leibniz was that they began with the category of substance as the primal and supreme one; whereas really it is a secondary and derivative one, only to be explained as subordinate to the causal category. Substantiality is causality, one of its specific phases. But the difficulty I did not mention is this: Since the attributes are immanent in the substance, what is the discernible difference between them that can warrant our distinguishing them as cause and effect? This difficulty has led many to deny the causality altogether. Thus the writer quoted just above admits that in both cases there is a relation of dependence, but adds: "on Subject it is a dependence of *co-existence;* on Cause a dependence of *origination.* A substance manifests but does not make its attributes; a cause produces its effects."[1]

[1] *Ibid.* p. 194.

I answer first that the relation of the attribute to the substance is something more than co-existence or immanence; for the substance is the principal factor in the causal process that produces the attribute. Secondly, the attribute, although immanent in is yet different from the substance, since it is also dependent upon the other factors in the process producing it; the weight of a body for instance depends upon the earth's attraction; its color upon the ether-waves, etc.

Let not the reader slight this as undue subtility. Clear insight here is the key that unlocks some of the darkest chambers in philosophy. From lack of such insight Martineau refuses "to invest external things as such with causality," thus virtually annihilating them, and so falls back into an obsolete occasionalism. He says that he "cannot consent to accept of entity as synonymous with cause." There is no need that he should. No finite entity is a complete cause; but it is a perceptible and indispensable factor in many processes of causation.

(2) It hardly seems needful to add anything to the proof given in the first section of Chapter II. that sequence is not causality. It may be well, however, to renew the caution against regarding each member in a series of effects as the cause of the next succeeding member. Obvious as this error is, it has been a very frequent and a very disastrous one. It gave rise to that chimera of Dual Causality so noticeable in the speculation of Spinoza[1] and of Kant;

[1]Calkins, Persistent Problems of Philosophy. Also Fullerton.

all three of the latter's Critiques are virtually based upon this doctrine of two kinds of causality.

(3) Turn now to the third theory, Cause is Force. Schopenhauer, above all others, is the doughty champion of this view. He did a real service to philosophy by reducing all of Kant's categories to that of cause; all the rest are "blind windows." But unable to break away from the Kantian illusionism, he undid all that he had done by degrading cause itself into something derivative and secondary—in fact, into virtual nothingness. Cause and effect, he says, are the changes which are bound to necessary succession in time. But behind them is Force, always and everywhere present, ubiquitous and inexhaustible, in virtue of which all causes operate. It is that which gives to causes their causality, that is, their ability to produce effects and from which therefore they only borrow this ability.

But this now widely prevalent view dissolves before my principle of the causal process. Indeed, Schopenhauer's own words unveil the source of his error. He says: "The cause is always, like its effect, a single thing, a single change." But that is a flat contradiction of the great maxim of all inductive science, that no finite cause is ever single, but always a complex process; by clinging to that truth, as I shall show in the chapter upon induction, she has won all her wondrous triumphs. And by delving somewhat deeper into this inductive principle of the causal process, we gain an insight into

that much disputed mystery, the nature of Force. We see that while extended things form the visible factor in every process of natural causation, force is the unseen, the imperceptible factor. Nor is our knowledge limited to this negative and yet very suggestive mark of imperceptibility. The marks mentioned by Schopenhauer—its ubiquity and inexhaustibleness—also really belong to it. And above all else one feature that he did not mention, its uniformity. That is what science means by her doctrine of the conservation of energy—the conviction that force works by methods absolutely uniform and invariable. Thus, strange to say, our knowledge of the invisible factor is the very means by which we come to an ever-deepening, widening knowledge of the visible.

The cause, then, is neither mere substance, nor phenomenon, nor a kind of force. On the contrary, it is *a complex of all these combined in a unitary and uniform causal process.* Let us see now what bearing this view has upon the objection that the substance or thing is but a name for the Unknowable Cause of its qualities. First, I repeat the comprehensive answer already given, that if the thing is unknowable apart from its qualities, so are the qualities apart from the thing. Second, the thing is known as that which determines the *specific* character of a quality; the other factors are general conditions giving only general results. Third, the thing is known as the one, persistent factor in each and all the many causal processes whereby its qualities

are produced. Thus its known relationship with other things and agencies widens out immensely, and our knowledge of it is correspondingly enlarged. We know the object perceived not merely through its casual, superficial relations to the perceiving subject, but through its deep-lying, wide-spreading, essential relations to that illimitable host of other factors which co-operate with it in the production of its attributes. It is the climax of silliness to talk of a thing thus widely and luminously known as an Unknowable Cause.

Fourth and above all else, the thing is always a perceptible factor, while the other factors have to be demonstrated as indispensable by the strict experimental methods of inductive science. A causal process, *as a whole,* then, is not seen or given by sensible experience. Hume was right there; and his famous problem would forever remain insoluble were it not for my demonstration that the cancelling of causality means the extinction of thought. The sole essential function of thought being thus proved to be the disclosure of causality, it follows that thought is fundamentally *a revelation of the unseen.*

Thus the new realism is lifted far above that mire of materialism into which previous forms of realism have sunk. It accomplishes what both subjective and absolute idealism have failed to accomplish by their assumption that the visible universe was an illusion. Without appealing to any such nonsense, the new realism demonstrates the existence of the invisible.

What seemed then a weighty objection has been

overcome and converted into a crowning proof of realism. But there are certain perplexities concerning space and time which have heretofore defied solution; these I hope to disentangle in the next two chapters, and then our proof will be complete.

# CHAPTER V

## SPACE

### *Section II. Perceptual and Conceptual Space*

ALL the perplexities and supposed self-contradictions that from time immemorial have clustered around the thought of space seem of late to be focalizing themselves upon the contrast between space as perceived and as conceived. On the one hand, conceptual space is regarded as one, homogeneous, continuous infinitely extended and also infinitely divisible. On the other hand, perceptual space seems somehow to be devoid of all positive characteristics; it exhausts itself in negating, pointblank, all the characteristics of conceptual space. Thus perceptive and reflective thought are made to appear in hopeless, irreconcilable conflict with each other.

At first Kant seemed little mindful of this antagonism. Indeed in the Analytic the very pith of his argument for the ideality of space is that it is neither a percept nor a concept. But later on in discussing the Antinomies the tangles involved in the thought of space as infinitely divisible begin to trouble him: he will not say that space is a whole *really* compounded of an infinite number of parts, but at any rate it is *ideally* so compounded. And in the "Critique of Judgment" he tentatively suggests this opposition of space perceived and conceived. At

present the entire space-problem seems to hinge upon this alleged discrepancy.

But for two good reasons it seems to me all a delusion. First, my perfect faith in the unity of thought forbids my believing in any such antithesis between perception and conception. Secondly, all this apparent antagonism vanishes instantly in the light of our fundamental law that the essence of all thinking is a discriminating between cause and effect. What has been erroneously regarded as a distinction between conceptual and perceptual space *is really a distinction between space and the spatial relations of things.* And the two, so far from being in any antagonism with each other, are really related as cause and effect.

For consider first the spatial relations—distances, directions, length, breadth, etc.—which are certainly perceptible. Mark that it is not said here that space is the sole or entire cause of these spatial relations. We have got beyond that great error which has wrought so much confusion and darkness in philosophy—to wit, the failure to see that an effect is not the product of a single cause, but of a causal process interweaving many factors. Particular things are also indispensable factors in the production of spatial relations, which otherwise would not be perceptible. But so also is unchanging space.

Do you object that space is inactive, does nothing, neither produces nor resists motion, and therefore cannot be a factor in causal processes? Lotze especially makes this inactivity of space one of his main

reasons for denying its real existence; the essence of anything, he argued, consists in its behavior, what it does, and since space does nothing, it is nothing. I answer that if there is no space there can be no motion, hence things are non-existent, for they act only by moving; furthermore thought cannot exist for it neither moves nor is movable. In fine, Lotze's principle is a sheer plunge into the abyss of nihilism.

There is then no reason for denying or doubting the evident fact that space is a universal and indispensable factor in all processes whence the spatial properties of things result. "A medium or instrument is not necessarily either an agent or agency. It may be perfect just in proportion as it is itself *inert*, neither increasing, nor diminishing, nor in any way modifying what is transmitted or effected through it."[1] I quote these words as especially valuable for my purpose, because they were written by an eminent idealist without any reference, of course, to the use I am here making of them.

Note now the follies and contradictions amidst which famous philosophers have entangled themselves through failure to discern the real relationship between space and the spatial properties of things. Think of Berkeley troubled by a sort of rivalry which he imagines between space and God. He recoils from "that dangerous dilemma—to wit, of thinking either that Real Space is God or else that there is something besides God which is eternal, uncreated infinite, indivisible, immutable. Both of

[1]Ward, Naturalism and Agnosticism, II. p. 240.

which may justly be thought pernicious and absurd notions. . . . Which doctrine, how unworthy soever it may seem of the Divine Nature, yet I do not see how we can get clear of it so long as we adhere to the received opinions."[1] But look at it in the light of my doctrine. When space is conceived as one of the universal factors in all the physical processes of the universe, is it thereby made co-equal with the God who devised, established and maintains these processes?

Turn now to Kant. As early as the Dissertation of 1770, we find him arguing that only his theory of space as a form or figment of the mind will account for the two main difficulties of the question; first, the fixation of relative positions in space; second, the difference of space from the particular material or spatial properties of things. But the first of these is but a dim view of the fact that all spatial properties of things are dependent upon and would be impossible without one continuous space. The second that space and spatial properties, although so closely united, are yet very different; for it is the peculiar and supreme characteristic of every causal relation that it at once differentiates the cause from the effect and yet unites them by the firmest of all bonds.

Take now a more recent case. "Empty space," says Bradley—"space without some quality (visual or muscular) which in itself is more than spatial—is an unreal abstraction. It cannot be said to exist,

[1]Principles of Knowledge, §117.

for the reason that it cannot by itself have any meaning. When any man realizes what he has got in it he finds that he always has a quality that is more than extension. But if so, how this quality is to stand to the extension is an insoluble problem."[1]

I answer that of course the attribute of extension is not given in isolation. As he says in another place to which he refers:[2] "If visual it must be colored." There must also be "a 'what' that is extended." And other differences which "clearly are not merely extended." All these are interconnected effects or products of various processes in all of which some particular thing and continuous space are the indispensable factors. In fine, Bradley's demand that isolated extension be presented to sense is as absurd as to demand that motion be presented apart from some moving body.

In the next paragraph some dim recognition of the truth seems to flit across Bradley's mind. But he puts it aside with another denial—in new terms —"that *A* (extension) exists and works naked."

## *Section 2. The Continuity of Space*

A very great advance toward the solution of the space-problem is made, it seems to me, by our view of real space and the spatial properties of things as very different and yet as united by a causal relation. We have seen how swiftly many of the perplexities

[1] Appearance and Reality, p. 38.
[2] *Ibid*, pp. 17, 18.

which have led thinkers like Berkeley, Kant and Bradley into sheer illusionism, vanish before this simple apprehension. Furthermore, it completely disposes of a still more widely prevailing notion that space is naught but the mere sum of these spatial properties—extension, direction, distances, etc.

But there still remains one elemental characteristic of space unaccounted for. How do we know that space is absolutely continuous? Certainly we cannot perceive—see with our eyes or feel with our fingers that there are no crevices or holes in it. We cannot make the answer that used to be made to this and a host of other difficulties—the appeal to intuitions, to universal and necessary truths. For common sense, although far more truthful than the academic conceit of wisdom which scorns it, is yet not infallible. Nor does even the New Mathematics seem able to give answer; it offers no proof of the continuity of space except intuition or assumption.

The way then seems wide open for my answer as follows. Pre-eminent among spatial properties perceived are those of distance or the separateness of things. Now what is meant by the separateness of objects is that there is space between them; if there is no space between them they are not separate. Therefore it is demonstrably absurd to think of space itself as divisible into parts. For in order that the parts should be separate, *there would have to be space between them,* and consequently no separation of the parts. In other words, the division—either

actual or ideal—of space into parts is a contradiction in terms.

Heretofore the divisibility of space has been accepted almost as an axiom; from it all manner of antinomies and paradox have been evolved, especially the speculation of Kant and his successors rests largely upon it: Spinoza alone suggests a contrary opinion, but in a rather vague and faltering manner. And, although my demonstration of its indivisibility seemed perfect, this unanimity troubled me. It was therefore comforting to find that such a master-mind as Adamson had reached the same conclusion. He says: "The representation of a given space as made up of the fractional parts into which we may divide it, overlooks the difference between the actual representation thus gained and the concrete whole which is disclosed when the question is asked: *What then really separates the parts from one another?*"[1]

Furthermore I think that I can explain the precise origin of this virtual unanimity of error concerning the divisibility of space. It has sprung from blindness to the distinction between one infinite space and the finite spatial properties of things. For while the former is absolutely continuous and indivisible, the latter are manifestly divisible, even infinitely so. And the reason thereof is made very clear by what has already been established. We have seen that spatial properties are not results of space alone, but of space and things together; or more definitely,

[1]Development of Modern Philosophy, p. 298.

they are products of processes in which both space and things are indispensable factors. And as thus partially produced and limited by things, spatial properties have derived from things their characteristic of divisibility. But theorists have erroneously transferred this divisibility to space itself, to which it cannot possibly belong. Thus modern philosophy from its start is infected with a fatal error. For once more I affirm that the divisibility—either infinite or finite—of space is a contradiction in terms.

### *Section 3. The Discreteness of Space*

Some attention must also be given to the puzzle so much exploited by recent disciples of Hegel—the alleged contradiction between the continuity and the discreteness of space. For example, I have just alluded to Adamson's having caught a glimpse of the real proof of space's continuity. But he did not fully realize the significance of this insight. And so he soon asserts a second and contradictory feature in space, its discreteness, "the inexhaustibility, the endless capacity for being divided of a really continuous whole. But it is all a chimera. The two contradictory features do not belong to the same object. The continuity belongs to one infinite and immutable space. The discreteness or divisibility belongs to the countless host of finite, ever-changing spatial relations of things to each other.

"But no one quite equals Bradley in this art of inventing contradictions. First, he proves that space is not a relation. The mere fact that we are driven

always to speak of its *parts* is sufficient evidence. What could be the parts of a relation?" But as I have shown we are driven to speak of it as *not* having parts.

Second, he proves that it is nothing but a relation. But how can that which is absolutely one be a relation? These are but samples of the follies that issue from thinking of space as divided into parts. And they are all set aside by the simple question: If space has parts, what then separates the parts?

### *Section 4. The Reality of Space*

(1) Let us consider in course the four celebrated arguments by which Kant is supposed to have annihilated the reality of space. The first is: "Space is not an empirical experience which has been derived from external experience. . . .[1] No experience of the external relations of sensible things could yield the idea of space, because without the consciousness of space there would be no external experience whatever." Now all that is a foolish truism; it says nothing except that without the idea of space I could not have the idea of externality. Again the doctrine that space is an illusion, a mere idea inside of me makes it impossible that things should be outside of me or of each other.

(2) "Space is a necessary *a-priori* idea which is presupposed in all external perception. By no effort can we think space away, etc." The first proof seemed absurd enough, but this far surpasses it in absurdity. We must believe space to be real, we can-

[1]Critique, Pure Reason, Tran. Æsthetic, § I.

not think it away; *therefore,* it must be an illusion!

(3) "Space is not a general conception of the relation of things but a pure perception. . . . It is true that we speak as if there were many spaces, but we really mean only parts of one and the same space." That argument I have exploded by demonstrating in Section 2 that space has no parts, is absolutely continuous.

(4) Kant's final argument is very vague, almost unintelligible. But both its vagueness and its falsity are explained in Section 1. There I have proved that the much mooted distinction between perceptual and conceptual space is really a distinction between space and the spatial relations of things; and that the ignoring of this obvious distinction is the taproot of almost all the errors and paradoxes infesting the spatial problem.

Kant's four proofs of the ideality of space are amazingly feeble and empty. Dissatisfaction with them soon led his successors to take another path; but a retrograde one toward the theories of Berkeley and Malebranche. Kant's doctrine of space as a mental form leaves everything at loose ends; the application of the form does not determine whether a given object shall appear as a cube or some other figure; the choice between the various forms is altogether arbitrary. But plainly we have no such liberty as that; the relations of things in our subjective forms of space are quite independent of our will; try our best we cannot conceive an inch as longer

than a mile or a wagon-wheel as triangular. Hence arose absolute idealism; the determining factor in our spatial experience was not the individual mind, but the divine or absolute mind. But that seems only a sort of burlesque realism. What common sense calls a universe of things, this new view calls God or the Absolute.

There is then nothing self-contradictory in space properly conceived. The alleged contradictions have sprung from ignoring two obvious facts: first, that space has no parts; second, that spatial relations—distance, direction, figure, etc.—are effects or products of a causal process wherein both real space and real things are factors. Cancel either kind of reality, and you make knowledge and thought impossible.

# CHAPTER VI

## TIME

### *Section 1. Temporal Relations*

My solution of the space problem, then, rests upon the distinction between space and the spatial relations of things. All thinkers have recognized, more or less vaguely, that distinction. Newton, especially, insisted upon it most strenuously. The common view, he said, wrongly supposes that sensuous time and space are the true ones; they define them according to their relations to common things. But besides these there must be an absolute space and time not determined by their relations to anything external. Instead of absolute and sensuous space—terms having a dogmatic and misleading ring—I have put the simple facts, space and the spatial relations of things. Then by showing that these two terms are to each other as cause to its effects, the antinomies and other perplexities infesting the space problem have been made to vanish.

I have now to show that the problem of time, with its still darker enigmas, can likewise be solved by clear insistence upon the distinction between time and the temporal relations of things.

In order to outline my meaning let me first refer to that famous, oft-quoted passage from one of the world's greatest thinkers, St. Augustine: "What then is time? If no one asks me, I know; if I try to

explain it to one who asks, I do not know; yet I say with confidence that I know. But if nothing passed away, there would be no past time; if nothing were to come there would be no future time; if nothing were, there would be no present time. Yet those two times, past and future, how can they be when the past is not now, and the future is not yet? As for the present, if it were always present, and did not pass over into the past, it would not be time but eternity."[1]

Now when Augustine says that if no one asks him, he knows what time is, he means that he has a clear, distinct perception of temporal relations or periods of time. He fully apprehends the difference between before and after, to-day and yesterday, to-day and to-morrow, etc. But what he thus knows so confidently is something not simple but vastly complex—not time isolated and by itself, but time inextricably intertwined with and obscured by a host of other agencies—the revolutions of the earth in its orbit or on its axis, the sand in the hour-glass, and so on—all necessary for the production of that composite result, a temporal relation or period, which he really apprehends. With these temporal relations or periods, Augustine is perfectly familiar. It is of them that he is thinking when he says, if no one asks me, I know.

But, he continues, if any one asks me—in other words, if he becomes critical and tries to probe beneath the surface—then I know not. That, too, I

[1]Confessions, Book XI. ch. 14.

think, may be explained from our present point of view. Augustine, great and wonderful thinker as he was, was yet human and he fell into one of the most persistent of human errors—to wit, the animistic tendency to conceive all objects of thought in the similitude of things. In that fashion he conceives of time as an extended thing divisible into parts; in other words, he thinks of time as the sum or aggregate of all temporal relations or periods. But the moment he does that he finds himself in a hornet's nest of inexplicable enigmas and contradictions. For the present has no duration; make it as short or small as you will, it is still always capable of being divided into a before and after, a past and a future; it is but the plane which, without thickness, divides the bygone from that which is to come. The present, then, so far as duration is concerned, is zero; but the past has ceased to exist, and the future is not yet. Time, therefore, according to this definition, is the sum or aggregate of three zeros or non-existents.

I have given here but the gist of the difficulty which can easily be amplified into many minor riddles and contradictions. No writer heretofore has been able to surmount them. Let us see, then, what the doctrine of this volume will accomplish.

(I) I begin with the declaration that Time is one and indivisible. The proof thereof, like the proof of the indivisibility of space, lies in the simple question: If time can be divided into parts, what is it that separates or stands between the divided

parts? The force of that question is even more conclusive in the case of time than of space. It seems in some sort an excusable error to mistake the division of things for a division of the space they occupy; at least, most philosophers have made that mistake. But it is a gratuitous, a wholly unpardonable blunder to think of time as thus divided. What could possibly separate the divided parts? Certainly it could not be either space or things. Imagine two parts of time, one on the one side and the other on the other side of a spatial point or of an extended line! Nor could the divider be another part of time; for then there would be no separation, but continuous, undivided time.

(II) But you ask, if time is indivisible, how can there be a multiplicity of temporal relations or periods? The answer lies in the principle I have already announced that time is the partial cause or predominant factor in the process producing the many periods. And surely a cause in order to produce many separate effects, need not itself be divided. On the contrary, the very nature of a cause is to produce an indefinite multiplicity of effects. One man may take many steps, one wheel make many revolutions; but the sum of all his steps is not the man, nor is the sum of all its revolutions the wheel. There is no contradiction, then, between the indivisibility of time and the countless multiplicity of temporal relations or periods.

Let me add that one of the acutest and most eminent of English thinkers—Adamson—has also rec-

ognized this indivisibility of time. He says: "But just as little as space is made up of unextended points, so little is time made up of unchanging present moments."[1] But, unfortunately, while he has divined the truth, he has mistaken the ground on which that truth is based. He indeed rejects the Kantian doctrine that time is wholly subjective, but adds: "We may certainly allow that our representation of a changing reality, in the form of this intuition of time, has features that depend solely on the position of the subject in the sum-total of reality, and that, therefore, it is to that extent subjective in character."[2] But this admission of a partial subjectivity is fatal; logically it must end in a thorough Hindu illusionism. But this gulf of subjectivity my exposition has at every point avoided. Both time and temporal relations, in their existence, working and character, are altogether objective. What Adamson mistakes for a subjective element is but the shadow of those other factors—things, space, motion—which must combine with time in one causal process in order that temporal relations or periods may be produced.

III. Another fact which the denier of time entirely overlooks is that not all changes are motions. A change of feeling does not mean that feeling has really moved from one position to another, say from pleasure to pain or from sorrow to joy. A change in thinking—for instance, from thinking of a lamp-

[1] Development of Modern Philosophy, p. 313.
[2] *Ibid.*, p. 314.

post to thinking of the stars—does not mean that our mental state has actually traversed the immense distance between those objects. But the idealist takes it for granted that change must be motion. Thus a distinguished American thinker says: "If we say that time as a whole stands we deny the time-idea. Past, present and future co-exist, and there is no assignable reason for the change from the future to the past. It is equally impossible to find in a standing time any ground for change. But we fare no better with the notion of a flowing time. If we say that time flows we must ask whence and whither. From the future to the past or from the past to the future? But both past and future are dimensions of time, and it seems absurd to speak of time as flowing into or out of itself. Such a view is as impossible as the thought of a moving space. . . . And finally when we say that time as a whole flows we need another time for it to flow in. . . . Both views involve not merely mystery, but inconsistency and contradiction."[1]

Undoubtedly they do. For neither standing nor flowing—that is, rest or motion are terms that can be rationally applied to time. You might as well ask whether love is triangular or not? For, *only things move;* and time is not an extended thing having a position in space. In fine, the inconsistency and contradiction which our author laments, are but the evil fruitage of the animistic or hypostasizing

[1]Bowne, Metaphysics, pp. 169, 170.

tendency—the most persistent and fatal disease of human thought.

(IV) But there is still another objection possible. Does not your account of time as the cause of temporal relations or periods leave it vague and indefinite, a sort of unknowable cause after the style of Kant's thing in itself? I answer by once more recalling the corollary to my fundamental thesis: the cause is known only through its effects, and conversely the effects through their cause. In that light time becomes the best known, the most luminous of all objects. For it is thus causally connected with a vaster and more various range of results than any other. Space cannot begin to compare with it in this respect. For space enters only into our experience of the outer world; but time enters everywhere, into our experience of the inner as well as the outer world. And the many diversities between these two realms adds still more to the fullness and richness of our conceptions of time. In a word, there is nothing known to man which does not cast a reflected light upon his knowledge of time.

(V) The infinitude of time, although it has been in current philosophy a theme for endless quibbling and dispute, may here be treated very concisely. For almost any reader can see that the proof of the infinitude of space from its continuity may readily be transferred to the continuity of time. But to make assurance doubly sure, let me put the argument in another form. If time is finite or limited, it must be limited by something. But a something

—whether personal or impersonal—cannot exist without time to exist in, and therefore in putting an end to time it would put an end to itself; and so there would be no limit.

(VI) Another objection, much favored by idealistic theists, is that the reality of space and time would lead to a hopeless plurality of first principles. Besides God there would then be two other infinitudes independent of Him. But that trouble is quelled by my exposition. For, neither time nor space is by itself a complete cause, but simply a factor in the causal processes of the universe. God alone is the complete cause who plans, creates and maintains those processes.

(VII) Thus we have reached a theory of space and time which seems to answer conclusively all the objections ordinarily urged against their reality. And I now add as a decisive confirmation of this theory the fact that *there is really no other theory.* For, the idealism which simply denies the existence of space and time can hardly be accounted, in any strict sense of the term, a theory of space and time. And on the other hand, realism, in so far as it attempts to cope with the real difficulties of the subject, seems to end in a hopeless tangle of contradictions rather than in a consistent, systematic theory. A very vivid—not to say glaring—example of this is presented in the speculations of Prof. Fullerton, a distinguished American philosopher. Through some seventy closely printed pages he labors long and hard with the difficulties involved in his peculiar

conception of space and time. His conception I will not attempt to describe, as it seems to me utterly fantastical and unintelligible. It is enough to give in his own words the final upshot of the whole matter.

"It may be objected again," he says, "that extension can never be built up out of the non-extended —that if one element of a given kind has, taken alone, no extension at all, two or more such elements together cannot have any either. I answer that a straight line has no angularity at all, and yet two straight lines may obviously make an angle; that one man is not in the least a crowd, but that one hundred men may be; that no single tree is a forest, but that many trees together do make a forest; that a uniform expanse of color is in no sense a variegated surface, but that several such together do make a variegated surface."[1] And in the next chapter he solves the problem of time in the same preposterous manner—by affirming "that we can manufacture time by simply putting together elements which have no duration at all."[2]

Two or more zeros may make a unit! Surely when modern philosophers of good repute are driven to such silliness as that, there is urgent need of a new philosophy.

### *Section 3. The Indivisibility of Time*

In addition to the general theory of time given

[1] System of Metaphysics, pp. 192, 193.
[2] *Ibid.*, p. 208.

in the preceding section, I wish here to specially emphasize a principle, never noticed in any philosophic system, and yet of supreme importance—one of the keys to the solution of that problem of time which philosophy has despaired of solving. That principle is simply this: *Every attempt to conceive time as divisible destroys it.*

Consider the familiar argument disproving time's existence, which has stood unanswered for centuries. The present has no duration and is not time at all. It is but the plane which without thickness divides past and future. Time then is not made up of past, present and future, but of past and future only. But neither the past nor the future now exists; therefore time does not exist.

That argument, as I said, has never been answered. Many have accepted it as proving time's unreality, others have merely ignored it. And yet all that it really proves is, not time's non-existence, but its indivisibility. Time, as I have shown, has no parts. The past, the present, and the future are not the components of time; on the contrary, they are the products of time in its correlation with things. In fine, when you conceive time as divisible into parts you destroy it.

But let no one understand me as claiming that no previous thinkers have recognized that time has no parts. Both the Eleatic and the Heracleitean schools recognized that truth. Diodorus of the Megaric school did so still more explicitly.[1] Even

[1] Grote, Plato, I. p. 21, and IV. p. 228, note.

Aristotle held that the present was not a part of time, but a mere boundary between past and future. So in later times did Hobbes, Locke and many others. But for all these thinkers it was a truth but half-seen, therefore, full of mystery and paradox. How paradoxical it was, for instance, to affirm—as they all did—that the present did not exist, while the past and the future did. But all such absurdities vanish before my discovery of the crucial distinction between time and the temporal relations of things. A temporal relation or period is the joint product of time and some changing things; therefore, it derives something of its character from both. The present year, for instance, exists and will exist until the earth completes its present revolution around the sun. Past and future years do not now exist, because all other revolutions are either ended or have not yet begun.

Finally, let me refer to Bergson's philosophy, which just now is attracting much applause, as a signal proof of my contention. (1) The very basis of this philosophy is the sharp antithesis between two kinds of time; the one kind, pure duration; the other, a fictitious time that is merely spatial. That evidently is but a dim, distorted glimpse of my distinction between time and the temporal relations of things. (2) Duration, Bergson conceives as a succession of mental states; but these states are never so distinct from each other that they can be counted; as he never tires of repeating, they "melt into and

permeate each other.[1] . . . We must distinguish between the multiplicity of juxtaposition and of interpenetration."[2] That, too, is a vague vision of the great truth that time has no parts. But like Herbart in a similar case, Bergson fails to see that interpenetration presupposes extension or space, that only things can melt into and permeate each other. (3) Another point argued at great length is, that duration not being extended in space is immeasurable. When I try to measure time by watching the hands of a clock, "I do not measure duration as seems to be thought. I merely count simultaneities, which is very different."[3] The fallacy there lies in failing to see that space in itself is just as immeasurable as time in itself. We know them both only through their effects, that is, through the spatial and temporal relations of things. In the one case we measure not pure space, but the distance and dimensions of things; in the other case, not pure duration, but temporal periods—hours, days, years, etc.—are measured by the motions of things. (4) But this theory of time as a double-headed monster grows still more absurd when it tries to account for motion. It claims that motion has two elements, the space traversed and the act of traversing it; of these elements the first is divisible and the second indivisible. In both cases the exact opposite is the truth. Space, as I have demonstrated, is continuous or in-

[1] Bergson, Time and Free Will, pp. 104, 164, 231, 237, etc.
[2] *Ibid.*, p. 75, note.
[3] *Ibid.*, p. 108.

divisible. The act of traversing it is divisible into as many steps as we choose.

By means of such fallacies Bergson pretends to prove human freedom; but of this more hereafter. Here I seek only to show that the contradictions infesting the time-concept are due to a false conception of time—mainly to a confusing of time with the temporal relations of things. In the previous chapters the space concept was similarly explained. These contradictions thus eliminated, the proof of realism given in Chapter IV. is perfected. The denial of the world in space and time is tantamount to utter nihilism; it involves the complete collapse and extinction of thought.

# CHAPTER VII

## THE CONCEPT

### *Section 1. Plato's View*

FEW events in history are more memorable than the discovery begun by Socrates and completed by Plato that concepts essentially signify the unchanging and the causal. It was not only a great truth, but also a deep-hidden one. It was a truth contradicted by all appearances. In the first place the double import of the concept—its intension and extension—imparted to it an air of ambiguity and incoherence which the thought of twenty-three centuries has not been able to dispel: philosophy ever since Plato's day has been little more than an endless dispute between Realists, Conceptualists and Nominalists concerning this complex mystery of the concept. And the second feature of the concept has been a still greater embarrassment. For, it seems a flat contradiction of the first feature. If the concept is static, immutable, eternally quiescent, how can it be an active cause? And yet there it stands—the definition given by Xenocrates of the Platonic concept—"a cause serving as the unchanging type of all natural things." It was an immortal discovery. Nor is it in any wise a blot upon Plato's genius that his insight was not altogether clear and perfect. For in the then state of knowledge, as I shall show, it was impossible for any finite

intellect to fully and finally interpret this Platonic vision.

But what was then impossible the progress of science has now rendered perfectly feasible. What barred Plato from fully comprehending his splendid vision was the crude pre-scientific view of the relation of the attributes to the thing as one of mere "inherence"—"occult qualities" within the thing. It was this view which Aristotle, that grand master of compromise, so shrewdly elaborated in his doctrine of universals *in rem,* opposing it to the Platonic doctrine of universals *ante rem.* I have already shown that this inherence theory renders any true knowledge either of the thing or its attributes impossible, and leads straight to illusionism. Still truer is this in regard to the more complicated case of the concept or kind. For there is an evident connection of some sort between the qualities and the object qualified; to deny that would be sheer idiocy. But there is no such obvious connection between the sets of attributes belonging severally to different individuals of the same kind or class. Hence theorists, whatever their school, have failed to find any unifying bond between these sets of attributes, except that of mere resemblance or similarity. And this feeling of resemblance, as I have repeatedly shown, is strictly no relation at all; taken solely by itself, it is but the embryo—still-born—of a relation. It is the very type of all incoherence and self-contradiction; everything is at once like and *not* like everything else. And precisely here is the secret of that endless,

triangular controversy between realists, nominalists and concepticalists. No one of them has ever been able to explain the specific or generic relationship between the individuals forming a class, except by the utterly absurd and unintelligible dictum that there was somehow "a common element" in them. All have fallen back upon the Fallacy of Resemblance, and that is self-contradiction incarnate.

All schools, I say, without exception. The Scottish philosophy of "common sense," with its short and easy method of "intuitions," the French and English empiricism, the Teutonic illusionism in all its varied phases of paradox—all are mired in this fallacy of resemblance, this nonsense of a common element in different things. Listen first to an able and eminent intuitionalist: "Herein lies the difference between the act of the brute and the act of a man in perceiving objects that are alike. In one sense the brute may perceive what is similar as readily as a man; in some cases even more quickly, for his senses may be more keen. . . . But the brute does not attend and analyze as does a man. Hence he cannot discriminate, so as to abstract; or, at best, the degree and range of such efforts must be very limited. His power to compare and discern the like and the unlike would for this reason be lame and feeble, if no other could be suggested. Should it be granted that the brute can discern similar attributes, it has no power at all to conceive or think the similar as the same."[1]

[1]Porter, Intellectual Science, p. 331.

If that is the case, then the brutes are more rational than man. For the similar is not the same.

The theory of the concept then, I think, has made no real progress, but rather retrograded since the days of Plato. The medieval schoolmen in the main adopted the Platonic view, modified, however, by Aristotle's supremacy. But in those pre-scientific times it was impossible to fully comprehend the real nature, the complexity, the vastness, and the minute, unchanging exactitude of Nature's processes of causation. Therefore they could not develop further what Plato had left in the germ. And modern philosophy, forgetting its Plato, despising the Middle Ages, is still mumbling senilities about the common element in things.

I seek, therefore, to develop this germ of a great truth enfolded in the Platonic view of the concept as invariable and as a cause.

### *Section 2. The Extension of Concepts*

There is a three-fold difficulty infesting the conceptual problem. The first is the question whether the concept has any objective counterpart in the outer world. The other two pertain to the double import, the two meanings of a concept, its extension and its intension. These three difficulties intertangle into a knot so hard that no one has as yet been able to untie it.

Hegel sought to cut the knot by abolishing the outer world as mere "schein." But most real think-

ers have now grown weary of this easy way of evading difficulties; and I shall waste no time upon it.

Hegel, however, deserves credit for his doctrine of the concrete universal; it is not true, but there is a glimpse of verity in it. He saw that in the orthodox realism of the Middle Ages there was an element of truth that modern enlightenment had overlooked. He saw that the true universal was something more than an abstract vacuity; nor was it merely an imaginary collection of resembling individuals. In one passage, at least, he says that the true universal is not merely some common element in all of that kind; it is their Ground, their Substance. It is something pervading and determining all the characteristics of each one and binding together its qualities. Therein Hegel is drawing close to my theory of the concept as meaning, radically, a causal process. But he soon flies away into the inane, upon the wings of his celebrated metaphor about the "organic whole."

And that metaphor is doubly impotent. In the first place the only whole which has real parts must be an extended thing; and so in abolishing the world of things, Hegel has abolished the very category upon which his scheme rested. In fine, he has sawed off the limb on which he was sitting.

In the second place, nothing is gained by insisting, as he does, that the whole must be an *organic* whole. It is idle to repeat Aristotle's threadbare conceit about the hand severed from the body ceasing to be a hand. For that is no characteristic of

the organic as such; throughout the plant-world, and in a large part of the animal world, this dissevering of the organism is the very means used, not for destroying, but for multiplying life.

But turn now to another logician less addicted to metaphor and paradox—the staid, sober-minded, cautious Sigwart. And yet he seems equally certain that our concepts can have no objective counterpart. He says: "The peculiarity of thought is that its processes are incongruent with the existent to which they refer. There is nothing existent which agrees with the predicate idea in the same sense in which there is something which agrees with the subject idea." And he concludes, that "there can be no really objective truth so long as the universal as such has its existence only in our minds, and only the particular in reality."[1]

But in all that there is a great and grievous fallacy which from our present vantage ground can be shattered in a moment. It consists in misconstruing the universal as merely an imaginary collection of similar objects which thought sets before itself when it thinks the universal. But thought does nothing of the kind. When you think of redness, for instance, do you think of some vast aggregate of all the patches of red color in existence? Certainly not. You think rather of the particular patch of redness before you as one *product* or result of an optical process which is going on throughout the universe. In fine, sense gives the product the par-

[1] Logic, I. p. 83, note.

ticular red before my eyes; thought reveals the process of causation whence that product results. Is there then any such incongruence, as Sigwart asserts, between sense and thought? On the contrary, they are not merely congruent, but indispensable to each other. Without sense there would be no thought; and without thought we should be like animals, beholding only a minute fraction of what we now behold.

Furthermore there is not even that numerical antithesis between sense and thought which Sigwart imagines. The universal, that is, the process of production, is even *more individual* than the product perceived. For the particular perceived, redness, for instance, is fleeting, vanishes at night or the closing of our eyes. But the process of production is not only one, but changeless, will persist so long as the cosmos lasts. Thus Plato's pre-scientific vision is wondrously vindicated by modern science.

Or take another example. Bradley says sarcastically: "I see the little packs of dogs and the cats all sitting together, and rats and rabbits, etc."[1] What is really ludicrous here is Bradley's view of a universal as a mere collection. The true essence of every natural kind is the process of production whence the individuals result. What tests the species of an animal is its power of reproducing individuals of that species. What distinguishes the specific attributes of an object from its accidents is that the former result from the specific process, and

[1] Logic, p. 160.

the latter from external, modifying agencies. But of this more in the last section of this chapter and in the chapter upon Induction.

### *Section 3. The Intension of Concepts*

In the introduction to his Logic, Lotze announces that the peculiarity of thought which will govern the whole of his subsequent exposition is this: "It always consists in adding to the reproduction or severance of a connection of ideas the accessory notion of a ground for their coherence or non-coherence." Now that seems an anticipation of my own view, but it is not. At best it is but a dim glimpse of the truth, vitiated by fatal defects.

In the first place it is but the old theory of the concept as a mere bundle of attributes mysteriously tied together. The attributes do not inhere in things, but they cohere, they stick together. The outcome is, of course, a thorough illusionism. At the end of the Logic we are told emphatically that concepts have no real existence. "Thus we find ourselves confirmed in our conviction that the Reality which we desire to recognize in the general notions which are created by our thought is a reality which is wholly dissimilar to Existence, and can only consist in Validity or being predicable of the Existent."[1] Thus we have the Kantian self-contradictoriness put in its baldest terms. Universals are valid, but non-existent; we are all forced to think them real, although we know that they are not real. Plato failed

[1] Logic, § 342.

according to Lotze, because the Greek language had no word for this absurd idea of validity.

On the contrary, the concept, instead of being non-existent, stands for the very highest type of finite existence. We never actually perceive absolute individualities, but always vast complexes, made up of innumerable individuals. The material universe is such a complex. So is our little globe wherein countless things are interwoven together. So is each of what we call visible things, a complex of interacting molecules and atoms. And each of these atoms, according to the latest science, is made up of ions, electrons, vortex-rings—we know not what. But what stands forth sure, immutable, solid in this illimitable maze are the processes—concentric rings of causation, so to speak—beginning with the Infinite Cause of all and ending with the infinitesimal. And these processes are what universals express. Surely, it is rash to declare them non-existent.

But Lotze is not content with this paradox; he adds another and a still greater one. Concepts are not merely non-existent, but we cannot even form an idea of them. "The universal cannot claim to be called an idea. Words, like color or tone, are in truth only short expressions of logical problems whose solution cannot be compressed into the form of an idea. They are injunctions to our consciousness, to present to itself and to compare the idea of individual tones and colors, but in the act of so comparing them to grasp the common element which our sensation testifies them to contain, but which

cannot by any effort of thought be really detached from their differences, and made the material of a new and equally perceptible idea."[1]

But that bubble I have already pricked. I have shown that there is no such common element inside of things requiring to be detached, etc.; such a phrase is upon its face a contradiction in terms. What experience really testifies to is the existence of a causal process, absolutely uniform, by which under varying circumstances the different colors are produced.

At times, however, Lotze becomes a witness for my doctrine. He breaks loose from the superstition of the common element and turns to the truth. For example, he says: "Color as the common element of various colors is not a scientific idea or concept. . . . Discovery of a *process* (my italics) of light-waves, whose various rates constitute the various colors of the spectrum, gives the concept."[2] That is a clear, precise assertion of my principle that the essential meaning of the concept is a causal process.

But Lotze is inconsistent, oscillates from one view to the other. And his wavering is manifestly due to his having thrust causality into the background and put into its place the vague idea of ground. For that he gave the usual excuse of his school. A cause may have its effect frustrated by some other cause; but a ground cannot be thus counteracted; therefore, the latter has a wider range and a higher value than

[1] *Ibid.* p. 24.
[2] Metaphysics, II. p. 88.

the former. But the exact opposite is the truth. The mathematical ground is never frustrated, because it is confined to abstractions concerning empty space where all counteracting agencies are, of course, excluded. But cause widens out over the whole realm of existence and deals with every possible object of thought; ground is but one of its species. Bosanquet concurs with Lotze, in virtually discarding causality, but assigns another reason. Its gist is this: "What is merely essential to the effect is always something less than any combination of real things which will produce the effect, because every real thing has many properties irrelevant to this particular effect. So *if the cause means something real* as a material cause is real, it cannot be invariable and essential."[1]

I answer that the properties of a thing are different effects, produced severally by its entering as central factor into different processes. Its heat, for instance, is produced by one combination or process; its weight by another. But Bosanquet claims that the causation is not invariable and essential, because the same combination or process does not produce all these different effects. Is not that superlatively absurd?

### *Section 4. Nominalism*

Considering this chaos of conflicting opinions about the concept, it is not surprising that many should wish to abolish it altogether. Thus Mill pro-

[1]Essentials of Logic, p. 165.

nounces it "nothing less than a misfortune that the words Concept, General Notion . . . should ever have been invented." Sir Wm. Hamilton declares that the concept cannot be realized in thought at all. His words are too well known to need quoting; so I give but the first sentence: "Concepts express only a relation." For just there we have the root of the whole Nominalistic fallacy. Hamilton did not see that relations are of different kinds and different values. And it is because he has selected the most vague, self-contradictory and worthless of all relations—to wit, the relation of likeness—as the one expressed in concepts, that he scouts at concepts as worthless, unthinkable fictions. They cannot be represented in imagination, hence cannot be applied to any objects, and therefore cannot be realized in thought at all.

I answer that conception is never a mere picturing process. Even the crudest thinking does not speak of one thing as like another, without some hint of that upon which the likeness *depends*. And the more exact, scientific and truthful our thinking becomes, the more we insist upon tracing these vague resemblances back to the causal processes whence they result. But instead of repeating what already I have proved, let me call up both Mill and Hamilton as witnesses to the truth of my doctrine. For Hamilton says: "Though it is only by experience that we come to attribute an external unity to aught continuously extended, that is, consider it as a system or constitutive whole, still in so far as we do

thus consider it, *we think the parts as held together by a certain force;* and the whole, therefore, as endowed with a power of resisting their distraction—only if it resists distraction do we view it as more than a fortuitous aggregation of many bodies." And Mill endorses this as "one of the best and profoundest passages in all Sir Wm. Hamilton's writings."[1]

The two leaders, then, of the rival schools of English thought agree, in their wiser moments, that a concept is, after all, not a mere blurred picture of many objects, that in its deepest meaning it points to some power or process that binds together the bundle of attributes and resists their distraction. Even Hobbes has a passage to the same effect: "Abstract is that which in any subject denotes the cause of the concrete name. . . . And these causes of names are the same with the causes of our conceptions, namely, some power of action or affection of the thing conceived."[2] Thus all three of these famous thinkers show themselves in their deeper thinking as dissatisfied with their Nominalism, as vaguely recognizing that concepts, after all, are not fictitious unities, mean something more than their intension or extension or both these together—are, in fine, attempts to comprehend those causal processes of Nature, the full discovery of which is the goal of human thinking and knowing.

At the risk of some repetition, let me comment

[1] Examination of Hamilton's Philosophy, II. p. 67, note.
[2] Mill, Logic, Bk. I., ch. 5, § 3.

briefly upon another grave error concerning the concept just now very much in vogue. It consists in claiming that conception is essentially divisive in its tendency. Thus Seth Pringle-Patterson says: "Conception deals wholly with *abstracta,* with isolated aspects or points of view. It can never, therefore, express the facts of experience as they exist."[1] Still more strenuously Bergson and his school emphasize this isolating or divisive tendency. We are even told that concepts "make the whole notion of a causal influence between finite things incomprehensible. No real activities and indeed no real connection of any kind can obtain, if we follow the conceptual logic."[2] That statement—fantastic upon its very face—evidently has its origin in the old view of the conceptual world as purely static, eternal, changeless. But that view I have made no longer tenable. The causal processes that concepts seek to express are, indeed, absolutely uniform and continuous; but that does not by any means necessitate the invariability of the results or effects. On the contrary, as I have shown, *it is this very continuity of the process which causes infinite variation in the results.* For example, it is the continuous action of gravity which causes the velocity of the falling stone to vary in each infinitesimal instant. Other processes may also modify or counteract the results of any given process. In fine, concepts mean uniform processes, but their uniformity by no

[1] Man's Place in the Cosmos, p. 147.
[2] James, A Pluralistic Universe, p. 246.

means necessitates a static, changeless, paralyzed world.

Another grave error in the statements is their utter one-sidedness. It is true in a sense that conception is divisive or isolating. Thought to be of any value must distinguish precisely. But Bergson and the others forget that right thinking distinguishes only in order that it may more truly unite. The Neo-Hegelians deserve credit for having insisted that every judgment is at once analysis and synthesis; but their doctrine has a bizarre and paradoxical aspect unless we can show how it is possible that the same act should at once divide and unite. That I have done. For I have proved, first, that every concept in its deepest, truest meaning signifies a causal process; and second, that the peculiarity of a relation of cause and effect is, that it alone among all relations, at once distinguishes, and yet unites its terms by the firmest of bonds.

It seems then a strange mistake to affirm that conceptual thinking merely excludes or isolates, that it renders connection impossible. One might as well say that the revolution of the earth on its axis renders day and night impossible.

### *Section 5. The Origin of Concepts*

We have now examined the three main theories of the concept and we have found them all ending in insufferable paradoxes or self-contradictions; we have further found that all these perplexities disappear before the light of the simple theory advocated

in these pages. So far then as metaphysical or psychological evidence is concerned, our demonstration seems complete. But I shall not rest here with this abstract, metaphysical discussion. For this question concerning the essential meaning of the concept is of supreme importance. If the essence of all concepts can be proved to be an affirmation of a causal process, it would be enough by itself to demonstrate my fundamental thesis that all thinking is a relating of cause and effect; for, no act of thinking is possible save through the medium of concepts. And so to make assurance doubly sure, I add to the metaphysical demonstration another drawn from history. I shall show that from the very first, the human mind has dimly realized that a concept was the symbol of a causal relation. And, furthermore, that to this consciousness the origin of both language and science is due.

(*A*) First consider the origin of language. It is now a well-established principle in philology that the majority of verbal roots express acts, and mostly acts which in a primitive state of society men are called upon to perform—such as digging, plaiting, weaving, striping, throwing, binding, etc. Furthermore, they are generally acts performed in common; for only thus would they become well known, and only thus could the merely accidental elements be eliminated. And most important of all, we are told by Müller[1] that the mere consciousness of the acts of digging, binding, etc., is not enough;

[1] Max Müller, Lectures on the Science of Thought, p. 30.

only when the processes are such that their results remain perceptible—for example, in the hole dug, in the tree struck down, in the reeds tied together as a mat—do men reach conceptual thoughts in language.

Every verbal root in language, then, stands forth an enduring witness to the fact that concepts mean causal processes. Or as another eminent philologist, Noiré, has said: "The conception of *causality subsisting between things.* Verily this constitutes such a simple, plain, and at the same time obvious and convincing means of distinguishing the logos, human reason from animal intelligence, that it seems inconceivable that this manifest and clear boundary line should not long ago have been noted and established as such."[1]

From this unimpeachable proof presented by the origin of language we turn now to evidence of another kind, later, but equally conclusive. It is the testimony offered by man's prolonged effort to rightly classify natural things. Logicians still cling with a sad tenacity to the superstition that classifying consists in noting the mere resemblance of things. But I have shown that mere feelings are vague, misleading, self-contradictory and therefore of little scientific value. What then is the principle governing true classification?

We find that at a quite early period men, even the half-civilized and the savage, had succeeded in classifying living things, so far as they were known,

[1]Noiré, Origin of Language, p. 47.

into their species or lowest kinds. The reason of this success is evident. They had constantly before their eyes the processes of production whence these relationships sprang; therefore it was easy to determine the species.

But concerning inorganic things there was no such knowledge; then processes of production were hidden in a darkness which the most enlightened could not penetrate. Hence we find that every effort to classify inorganic things ended in complete, ignominious failure. Even so great a genius as that of Aristotle could invent no better scheme for classifying the inorganic than these four kinds, "the hot and dry, the hot and wet, the cold and dry and the cold and wet."

Note further that ancient classification, even of organic things, was confined to species. For thousands of years learned men—Theophrastus, for example, whom Aristotle selected to be his successor—had been studying botany; and yet until three centuries ago, they had not advanced beyond the crude division of the plant world into "trees, shrubs and herbs." But light dawned at last when Gessner discovered that true genera could be formed by noting characteristics drawn from *the process* of fructification. Since then, naturalists in their long search for a true or natural system of classification—as Darwin expressly affirms—"have always been unconsciously guided, not by mere *resemblances*, but by the principle of inheritance."[1] But the principle

[1] Origin of Species, Ch. 14.

of inheritance is but another phrase for process of production. What more perfect demonstration than this could be given of my doctrine that mere feelings of resemblance are of slight value until transformed into causal relations? In other words, a concept means something more than an imaginary collection of resembling things, or an impossible bundle of attributes or both of these together. In its deepest, most essential meaning it symbolizes the causal process which produces both the individuals and their attributes.

And under the guidance of this same principle, Darwin himself was led to that sublime discovery which has revolutionized modern thought.

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Thus we have unravelled those two intertangled perplexities that for thousands of years have made the concept a subject of constant dispute and uncertainty. The first perplexity was the double import of the concept. Some logicians, like Sigwart, Bradley, etc., have placed exclusive stress upon the extension. Others like Mill insist that "the extension is not anything intrinsic to the concept. . . . But the comprehension is the concept itself."[1] Or as Sir Wm. Hamilton puts it: "A notion or concept is the fictitious whole or unity made up of a plurality of attributes."[2] Thus each party sees but one side of the shield. We have shown both sides, and what is

[1]Examination, Hamilton's Philosophy, I. p. 79.
[2]Lectures, II. p. 171.

far more important, the bond of union between them. Both are simply results of the process of production which the concept represents.

Second, that process of production is no mere figment of the mind. It is a reality in part perceptible by the senses and always verifiable by inductive observation. Furthermore, this view explains the subordination of concepts as due to the inclusion of one causal process within another wider one. Thus we need not be puzzled, as Lotze was, by the fact that one object can be at once an animal, a vertebrate, a mammal and a cow.

# CHAPTER VIII

## JUDGMENT

### *Section 1. The Unity of Judgment and Inference*

ONE of the most eminent of living psychologists, in the closing pages of a recent work, makes the following declaration: "I wish that I could offer some positive contribution to the psychology of judgment; but the insuperable difficulty there is that we do not yet know what judgment is. It is an anomalous position. We are committed to a psychology of judgment; we can no longer say with Rehmke that the phrase is contradictory in itself, or with Marbe that there is no psychological criterion of judgment; and yet no one, psychologist or logician, can furnish a definition that finds general acceptance."[1] And he adds that this is not a matter simply of different points of view; there is actual uncertainty regarding the nature and limits of the process to be defined.

Another eminent psychologist lays stress upon the uncertainty in regard to the limits of judgment. He speaks of "the undue proportion of reasoning that recent logical theory has brought under the head of judgment, and the little that is left to the more practical operation of judgment. Superficially regarded this seems to indicate that the recent writers have failed to find any sharp line of distinction

[1] Titchener, Psychology of the Thought Process, 188.

between what they call judgment and what they call inference."[1]

But here, too, my fundamental thesis will dispel the double darkness. It will enable us to precisely define the nature of judgment and to draw a sharp line of distinction between judgment and inference. To do this let me recall a view already suggested—namely, the superior freedom of thought or reason compared with Nature. The course of Nature is from cause to effect; its past is irrevocable. But thought or reason is endowed with the grand prerogative of moving at will in either direction. It can follow the course of nature by passing from cause to effect; or it can reverse that movement and pass freely from observed effects to a knowledge of their causes. This reverse movement is, indeed, more difficult than the other; but it is by far the higher, nobler function—the method of all scientific advance, the secret of all human progress.

Now the proposition I expect to prove is this: *Judgment is the movement of thought from causes to their effects; inference is the reverse movement from effects to their causes.* Thus we draw a sharp line of distinction beween judgment and inference; and yet reveal their underlying unity.

The truth of this view, so far as judgment is concerned, is evident at a glance. Human knowledge begins with the recognition of things as causes. The most benighted savage can abstract; he can distinguish between the thing perceived and the activities

[1]Pillsbury, The Psychology of Reasoning, pp. 170-171.

it puts forth or the changes it undergoes. Thus there develops some crude idea of substantial causes and of their qualities as dependent upon them.

But there are objections that must be met. Let us turn, then, to Lotze's criticism of the judgment, he being the inventor of most of the puzzles and paradoxes rehearsed by Bradley and others.

Lotze begins his criticism by referring to the so-called impersonal judgments, it rains, it lightens, etc. But really they form a signal proof of my thesis. That little word "it" is a most significant one. The essential function of thought, for the savage as for us, is to relate cause and effect. But primitive man did not know the cause of rain or lightning, and so he inserted the neutral word, it, as the symbol of an unknown cause. And we still retain the word, because we are almost as ignorant as the caveman was. Who fully knows why rain-drops fall or what electricity means?

Lotze's main attack, however, is on the categorical judgment against which he makes three charges.

(*a*) The first is that the relation between the real thing and its properties cannot be transferred to the relation of subjects to their predicates. "In regard to the latter relation we find no corresponding account of the way in which one *inheres* in the other."[1] How much of this metaphysical relation will survive, he asks, if the thing be replaced by something which is not a thing, and the property by something which is not a property? I answer that all this hinges upon

[1] Logic, § 53.

the misleading and preposterous relation of inherence. But I have shown that the true relation of substance and attribute is a causal one. And obviously that relation can be transferred to any subject and predicate, no matter whether the subject be a thing or not, so long as it is a cause or causal factor.

(*b*) Lotze's second criticism of the categorical judgment is that it cannot be explained by saying that one term is predicated of the other. His argument here is very misty and prolix, but the gist of it is given in the final sentence: "It still remains a further question: What constitutes this peculiar relation?" I answer that it is the relation of the subject as partial cause or factor in a process to the effect produced by that process.

(*c*) Lotze's third and final objection is that such judgments are indefensible against the principle of identity. My answer can be given in his own words —not chance words dropped in a careless moment, but an ultimate principle set forth at the close of his Logic. He there maintains that equations—the only real identities[2]—"express the fact that certain operations, different in form, applied in a prescribed order to any given quantities within defined limits will give identical results." That is quite true, but it ruins Lotze's third criticism of the judgment. For it affirms that equations, the class of judgments that are the most abstract, the farthest removed from any appearance of causal activity, are, after all, in

[1] *Ibid.*, pp. 54, 51.
[2] *Ibid.*, p. 486.

their essence, in the deepest core of their meaning, judgments of causality. For example, the judgment $7+5=12$ means that the addition of 5 units to 7 units will result in 12 units. And as already said, that is no casual, unguarded admission, but Lotze's ultimate, reasoned account of equations.

We have thus examined Lotze's keen indictment of the judging process. And we have found that when the judgment is viewed aright—namely, as thought's movement from cause to effect—all his charges fall to the ground. The puzzles, anomalies and discrepancies which he finds are due to his failure to see the true, intrinsic nature of judgment.

### *Section 2. Brentano and Watt*

Brentano was one of the first thinkers to emphasize the view, now so widely accepted, that the judgment is a unitary process. The motive inspiring such a view is an admirable one; it is that longing for unity of thought which has ever characterized the scientific spirit. But very few, probably, would now insist that Brentano's theory accomplishes its purpose; and from our present position we can readily see the cause of its failure.

For the great peril attending all such endeavors is that they may mistake mere confusion for genuine unity. You cannot attain real unity of thought by simply flinging everything into one melting-pot. But Brentano, and many others after him, have tried to present the judgment as a unitary process by merely effacing that normal, elementary distinction

between the two terms—subject and predicate—which have always been recognized as forming the very essence of the judgment. In place of this familiar, clear distinction he would substitute the mystifying duality of perceptive act and content. The result is not real unity, but confusion and vagueness.

For example, he identifies judgment with belief. But as another has said: "Brentano positively declines to state in what the process of belief consists, or to give it any conditions. He argues strenuously that it is an unanalyzable process. We believe, and that is all that can be said. This can mean only that the process has not yet been analyzed, or that Brentano does not care to undertake the process."[1]

That certainly is an anomalous position. Judgment is belief; and belief is an unanalyzable process! According to Kant, the mind has no assured knowledge of the outer world; according to Brentano, the mind has no knowledge of its own most elementary and constant operations; so simple an act as a judgment is an unanalyzable and therefore unintelligible process. Between the two, the mind seems reduced very near to a state of idiocy.

But now look at the matter from my causal point of view. The predicate is related to the subject, not by some fantastic inherence therein, but by being an effect whereof the subject is the partial cause. There you have the judgment presented as a unitary process without any slurring or effacing of those

[1]Pillsbury, Psychology of Reasoning, p. 28.

indispensable distinctions that form the essence of a judgment. Nay, more than that, both the unity and the distinctions are emphasized to the utmost. Nothing so clearly distinguishes two terms as a relation of cause and effect; and nothing binds them together by firmer bonds.

It may be objected that in Chapter IV. I accept Brentano's view of sensations as by themselves indistinguishable from each other, and that here I am contraverting it. But that would not be true. Sensations are indistinguishable from each other *only* when isolated from the causal processes—or the external and internal factors thereof—producing them. So my two references to Brentano's view corroborate, instead of contradicting, each other.

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But let us turn now to a recent discovery that is being welcomed as opening a new epoch in experimental psychology—Watt's disclosure of the *Aufgabe,* the task or problem as the one sole psychological criterion of thought. That chimes perfectly with the doctrine I am here advocating. True, Watt finds many such tasks, instead of the one ultimate, all-embracing task of relating cause and effect. But Titchener explains that: "We may say in general that many of the problems which give direction to human activity have this character of the obvious and in so far of the unconscious, and that philosophical reflection and self-examination are needed to raise them into the clear light of consciousness. . . .

Just because this predisposition is altogether accustomed and obvious, it will not of itself and unaided come to consciousness as what it is. . . . This relief of consciousness, this gradual mechanizing by practice of processes that at first demanded effort of attention and consideration from various points of view, is one of the most firmly established results of psychology."

I am demonstrating in this volume that the elemental, all-inclusive task or function of thought is to differentiate the existent into cause and effect. But as said in the above quotation, a task or function thus universal and familiar tends to fall into the background of the mechanical, the instinctive and unconscious. Its place in consciousness is taken by a crowd of minor, special problems which, being unfamiliar and therefore difficult, demand all our efforts of attention and absorb all our mental energies. Philosophic reflection ought to recall to consciousness what has been thus obscured. But modern philosophy not merely ignores, but denies the very existence of that causation which it is the supreme task or function of thought to reveal.

### *Section 3. Meaning*

There is a theory of judgment much favored by modern logicians which describes it as the ascription of meaning to the given. But of this I shall say but little. For it is nothing but the fallacy of resemblance come to the front again under a new name. The universal is conceived as a type or standard rep-

resenting a great mass of particulars; in fine, it is a vague resemblance, at once like and *not like* its particulars. As one writer says: "When we think, the type or standard is in consciousness, and nothing else. In perception as well, we are conscious of nothing but the type, of nothing but the meaning."

Now undoubtedly there is in mental life such a process as that of noting mere resemblances or types. It is but a reflex activity, an automatic response to stimuli, shared by all animals down—so far as I know—even to the Amœba. But this brute association of similarities *is not thought*. It differs from thought as night from day.

For first, when you attempt to express your "types" in definite terms, you reach nothing but a self-contradiction—like and not-like—and that is the paralysis, the destruction of thought.

Second. This association of types may suffice for merely animal needs; but it gives no capacity for continuous advance in knowledge, the crowning glory of thought.

Third. Even the advocates of the type-theory admit that it does not satisfactorily explain large groups of judgments. True, the writer just quoted would account for this failure as due to defects in human speech, rather than in his theory: "The duplicity in this whole group of judgments is linguistic only; the mental operation is single." But it seems incredible that all languages, high and low, should have thus conspired to say exactly the opposite of what they ought to say. It looks as if psychological

introspection rather than universal language must have gone astray.

Fourth, the lack of any real proof of this doctrine is shown by the revival, in its behalf, of the very old and foolish quibble about the copula. Bradley makes that quibble the corner-stone of his entire philosophy. Even the staid Sigwart asks forlornly: "But how does it happen that the verb to be, which is the expression of actual existence, assumes a formal function in the copula, whereby it loses its meaning—nay even seems to contradict it?"[1]

I answer that in the copula, being or existence neither loses nor contradicts, but rather reveals its true and deepest meaning. For, to be or to exist means to be in causal connection with other existents. And that is precisely its meaning in the copula; it asserts a causal connection between the subject and the predicate.

The copula is thus wondrously well adapted to express the exact relation of the two terms of a judgment. For, remember, the subject is not *the* cause of its predicate, but simply a factor in the causal process producing the attribute. "The house is red" does not mean that the house was the sole cause of its redness, but the painter, the owner, the paints were likewise factors in the process. Thus always the copula expresses a causal connection, no more, no less. In fine, the creators of language seem to have had far more prescience than the creators of "modern" logic.

[1] Logic, II. p. 100.

### *Section 4. Judgments of Relation*

There is a class of judgments that demand special attention because they are at once very obscure and very important—judgments of relation or comparison. Lotze's treatment of them best exemplifies their obscurity, and so from it we will start. What looms up most in his view is the perplexity involved in the idea of *"between."* He asks, "What are we to make of this idea of a self-existent distinction *between* *a* and *b*? And what objective relation can correspond to this "between," to which we only attach a meaning so long as it suggests to us the distance in space which we, in comparing *a* with *b*, interpolated by way of metaphor for the purpose of holding the two apart, and at the same time as a connecting path on which our mind might be able to travel from one to the other?"[1]

Is not the above quotation a signal proof of my fundamental thesis? I have said that since the sole essential function of thought is to relate cause and effort, therefore whoever discards this only genuine mode of thinking has but one possible resort: he is inevitably driven, despite himself, to a sort of quasi-thinking by means of metaphor or hypostasis. Is not that precisely what Lotze does in the present case? He is trying, as the context shows, to interpret the difference between the idea of red and that of yellow. And his only resort is to imagine these two ideas set out in space with a third thing, the idea of difference put *between* them to keep them

[1]Lotze, Logic, § 338.

apart. Could anything be more preposterous? But turn now to the only genuine way of thinking—by causal interpretation. You then recognize red and yellow, not as two objects set apart like two stumps with another object—their difference— squatted "between" them; but as two cognate products of one uniform optical process, with a certain definite difference due to varying degrees of refrangibility. Your metaphor, your puzzle and paradox have all departed.

Yet Lotze insists that what cannot be a relation *between*[1] things "cannot be a relation in the ordinary sense of the term at all." And Bradley elaborates this hint into his celebrated philosophy of the Absolute. Another eminent thinker bases his religion upon the same silly metaphor. He says: "It is all in the 'between'; betweenness in its very nature cannot exist in any point of space. . . . Apart from mind there can be no relatedness, apart from relations no space, apart from space no matter. It follows that apart from mind there can be no matter."[2] That is his proof of God's existence.

And this metaphorical or hypostasizing malady seems equally epidemic in recent realism. In Russell's philosophy, for instance, mere adjectives, qualities, colors, kinds—even "difference" itself—are hypostasised into eternal, immutable entities.[3] "Change in the metaphysical sense" is rejected.[4]

[1] *Ibid.*, p. 338.
[2] Rashdall, Philosophy and Religion, II.
[3] Principles of Mathematics, p. 471.
[4] *Ibid.*, p. 486.

Russell, like Hegel, repudiates induction as "mere guesswork."[1] Causalty also he discards; "on the whole it is not worth while preserving the word cause."[2] And as an inevitable sequel the judgment loses all real validity. "The whole doctrine of subject and predicate is radically false and must be abandoned."[3]

To show the main source of error in this kind of realism let us turn to the puzzle which Leibniz found in the judgment, "*L* is greater than *M*"; and over which Russell labors long and in vain. Now that is plainly a judgment about the magnitude of *L*.[4] But this magnitude is a property of *L*, an effect produced by a causal process wherein *L* is the chief visible factor. And the change to the comparative degree, "greater than *M*," changes the judgment nowise *except to make it more exact*. Therefore the comparative judgment, so puzzling to Leibniz and Russell, is simply a more exact expression of the causal relation expressed in the simpler judgment, "*L* has magnitude."

Evidently here and throughout Russell's philosophy the fatal flaw is his conviction that "it is not worth while preserving the word cause."

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Thus the problem set before us by the two eminent psychologists quoted at the beginning of the chapter —namely, to dispel the uncertainty enveloping both

[1] *Ibid.*, p. 11.
[2] *Ibid.*, p. 486.
[3] *Ibid.*, p 466 Cf. Hegel's Logic, §§ 31, 172.
[4] *Ibid.*, p. 222.

the nature and the limits of judgment—seems to be solved. First, the nature of the judgment consists in affirming a causal relation; we have scrutinized the leading theories of judgment and found them honeycombed with defects and contradictions due to ignoring this essential nature of judgment. Second, the limit of judgment as distinguished from inference is that the former is thought's movement from the substantial cause to its effects or attributes; the latter is thought's movement from observed effects to their causes. But the full proof of this distinction between judgment and inference must be reserved for the next chapter.

# CHAPTER IX

## INDUCTION

### *Section 1. The Great Enigma*

AMONG all the scandals clouding modern philosophy, none seems quite so disgraceful as its failure to give a clear and consistent theory of the inductive method. For more than three centuries now the use of that method has been achieving marvels that have revolutionized the life of mankind; and yet the exact nature of that method remains almost as much a secret for modern philosophy as it was for Aristotle. Furthermore, this inductive problem is not only in itself one of such supreme importance, but it is also one upon which all philosophic development hinges. This latter fact is signally proved by the Kantian system, of which all succeeding systems seem little more than cheaper editions. For Ueberweg is certainly right when he speaks of Kant as "assuming (what he does not prove, but simply posits as self-evident, although his whole system depends upon it) that necessity and strict universality are derivable from no combination of experiences, but only independently of all experiences."[1] According to Kant, "Experience tells us, indeed, what is, but not that it must necessarily be so and not otherwise; hence she gives us no true universality."

Kant, then, was fully alive to the immense sig-

[1]History of Philosophy, II. p. 161.

nificance of the problem, although he gave to it a wrong solution. Hegel, on the other hand, with characteristic audacity, simply ignores it. Unable to explain induction in his Logic, he shoves it aside with a few contemptuous lines. It is nothing more than a mere enumeration of similar instances.[1] "In no induction can we ever exhaust the individuals. . . . Every induction is consequently imperfect. . . . By this defect of induction we are led on to analogy."[2] And this analogy, of which induction is but a defective form, is a mere instinct, an arguing from faith! And the whole nineteenth century, resplendent with the victories of inductive science, has taught nothing beyond that to Hegelians. Bosanquet, for example, affirms that "scientific induction is, indeed, something of a contradiction in terms.[3] . . . It is not an inference, but a transient and external characteristic of inference."[4] No wonder that so zealous a devotee of Hegelism as Joachim exclaims mournfully: "The coherence notion of truth may thus be said to suffer shipwreck at the very entrance of the harbor."[5]

Nor does modern realism seem anywise more competent than its rival to reach a rational interpretation of the inductive method. Mill, indeed, should be highly honored for the courage and skill with which he attacked this deep and difficult problem; nevertheless he did not solve it. In fact, Mill's ex-

[1] Hegel, Logic, p. 427, note.
[2] *Ibid.*, p. 190, note.
[3] Bosanquet, Logic, II. p. 118.
[4] *Ibid.* II., p. 176.
[5] Joachim, Nature of Truth, p. 170.

position of the inductive method is in many respects very deceptive. Out of these many respects I can here summarize only the two leading, most comprehensive ones. First, Mill is as much entangled as Hegel in the Fallacy of Resemblance. Their phraseology is different, but both fall into the same abyss of error. Hegel is absorbed in "identity and difference"; for Mill "the universal type of the reasoning process" is: "Certain individuals have a given attribute, an individual or individuals resemble the former in certain other attributes; therefore they resemble them also in the given attribute."[1] Both fail to see that mere feelings of resemblance, of likeness and unlikeness, instead of being the universal type of the reasoning process, are but irrational, prelogical modes of the psychical, which of themselves lead nowhere but to incoherence, self-contradiction and the consequent extinction of thought. Secondly, Mill, like Hegel, degrades induction ultimately into a mere enumeration of particulars. He expressly affirms that the principle of nature's uniformity "must be considered as our warrant for all the others in this sense, that if it were not true, all other inductions would be fallacious."[2] All induction, then, is ultimately reducible to an illicit process; all reasoning is fundamentally irrational. The sophistries by which Mill tries to evade this conclusion have been too often exposed by others to need a tedious recital here.

[1] Logic, Bk. II. ch. 3, § 7.
[2] *Ibid.*, Bk. III. ch. 3, § 1.

But no other logician has ever been able to extricate himself from these two errors any more than Hegel or Mill were. True, some of them have striven hard to escape from the second error—induction viewed as an illicit and palpably impossible process. But they have not succeeded. The most plausible attempt was that of Jevons, by describing induction as but reversed deduction, or as Sigwart prefers to phrase it, reduction. But that is circular reasoning in its most obvious form. Deduction is reasoning from universal affirmations; but how do you justify these universals from which you proceed to reason? The answer is, by reverse deduction. You are bound upon the revolving wheel of error, and you will not escape by merely reversing the revolutions.

Of the first-named error, the fallacy of resemblance, there has not been not even recognition, much less any serious attempt to escape therefrom. With surprising uniformity all logicians degrade induction into a mere bundling together of similarities. Even Jevons, Mill's chief antagonist, agrees with him that "the fundamental process of reasoning consists in inferring of anything what we know of similar objects."[1] But James outstrips all rivals in his zeal for similarity; in his opinion the most elementary single difference between the human mind and that of brutes lies in the deficiency on the brute's part to associate ideas by similarity. The mere feeling of likeness, he thinks, is the crowning trait of human

[1]Hobhouse, Theory of Knowledge, p. 285.

genius at its loftiest; even Newton's immortal discovery was due to a sudden outburst, "a flash of similarity" between an apple and the moon.[1] But I doggedly insist upon the familiar fact that brutes have a surer scent for similarity than man has; and that, according to James' theory of reasoning, the brutes and not a Newton ought to have produced the Principia.

The theory of induction, then, seems enigmatic enough; reasoning appears somehow to present itself from start to finish as inexplicably unreasonable. And from the historical point of view still another enigma emerges to deepen the mystery. The scientific discoveries made in ancient times were due mainly to the Hindus and the Alexandrian Greeks;[2] they were few in number and comparatively trivial. Why, then, after so many thousand years of stagnation and sterility, did this strange inductive method—this highest type of the reasoning process —suddenly in the last two or three centuries bloom forth into all the splendors of modern science? That problem certainly has never been solved. It has hardly been seriously propounded.

Both from the theoretic and the historic point of view we are justified in entitling induction the great enigma. And no better test of a genuine philosophy can be conceived than its ability to solve a problem so important and one that has heretofore defied all attempts at its solution.

[1] James, Psychology, II. p. 360.
[2] Cf. my Philosophy of History, pp. 60-65, 126-134, 189-197.

### *Section 2. Deduction*

My solution of this long unsolved and yet supremely important problem is briefly as follows: **All reasoning or inference is primarily induction. Deduction is but a branch of the inductive method, a subsidiary phase thereof, applicable to special subjects.** No other view except this can safeguard the unity of all reasoning and ultimately of all thought.

To clear my view from all appearances of paradox let us consider first the mathematical sciences, since they have always been accounted pre-eminently deductive. Beginning with arithmetic, we find it everywhere based upon the mental creation of unchanging units. In counting, however much the objects counted may vary, the units substituted for them by thought remain absolutely invariable and equivalent to each other. The arithmetician mentally excludes all differentiating or modifying agencies as rigidly as the physicist physically excludes them from his experiments. Mark further that this is not merely a basal principle underlying arithmetic; more than that, it is a method that must be used at every single step of an arithmetical process. Every such minute step is an induction, a discerning of the universal in the particular. Savages do not clearly distinguish between numbers and things numbered, nor even did the Greeks, apparently.

This essentially inductive character is also evinced in geometry. A geometric demonstration is the linking together of many inferences, each so simple that we recognize its universal validity at a glance. Mod-

ifying agencies are excluded by the homogeneity of space. When, for instance, a straight line is drawn to a point upon another line, you see that the angles thus formed will be equal to two right angles, not only in this particular case, but universally, because in pure space there is nothing which could cause a difference. In fine, it is this swift, almost unconscious but never failing transition from the particular to the universal, at each successive step in the reasoning that forms the essence, the very soul and life of a geometric demonstration. The rest is a mere task of construction, an ingenious fitting together of many inductions, until you attain the desired result. But without this incessant transformation of each particular inference into a universal one, as you proceed, your proof would be valid only for the one little figure given in the diagram.

It would seem, then, that what is usually called mathematical deduction is, in its most characteristic and fundamental features, really induction. Especially the final theorems in geometry, dependent as they are for their proof upon the preceding ones, are made up of hundreds of minute inductions as a living body is made up of living cells.

Furthermore, those deductions which are not mathematical or quantitative, but simply syllogistic, are still more obviously of an essentially inductive character. A syllogism is the union of two premises, both of which are of inductive origin. All the really difficult and valuable work of reasoning lies in the formation and verifying of those premises; the putting of them together in the form of a syllo-

gism was almost as much a mechanical task as the nailing together of two boards. Indeed, syllogistic machines have been invented which seem to perform this task quite as well as the average man.

Nevertheless, this theory of reasoning, so obvious and irrefragable, so accordant with the whole history and spirit of science, is exactly opposite to that of most modern logicians. They still worship at the shrine of syllogism. They agree with Hegel, apparently, that everything, the whole universe and its contents, "is a syllogism." Bosanquet shoves induction aside as a transient and external characteristic of inference. The name Scientific Induction, he declares, "is something of a contradiction in terms." Lotze likewise is "certain that inductive methods rest entirely upon the results of the deductive logic."[1] For Sigwart and Jevons induction is but deduction inverted, turned upside down. Even Mill, generally regarded as the creator of inductive logic, in the long run reduces induction—as we shall soon see—to a feeble and forlorn auxiliary to deduction.

But I am not at all dismayed by this array against me. For I know its origin and its futility. It originates in that passion for innate ideas and *a-priorities* which has so long cursed modern philosophy. Theorists, unable to understand induction, have in sheer despair invented a crowd of innate ideas, postulates, *a-priorities*, etc., to furnish a basis and starting-point for knowledge. All these arbitrary, unverifiable and futile assumptions I sweep aside contemptuously. If

[1] Lotze, Logic, § 288.

philosophy can find no better basis than that, it is bound to end in dull, stupid skepticism.

### *Section 3. The True Theory of Induction*

Induction, as we have seen, is the mind's passage from observed results to the causal processes producing them. In the pre-scientific age of thought what was called induction was merely the observation of particulars, their resemblances and sequences; like things it was assumed must produce like effects; an event that often preceded another event must be its cause. But any such mere enumeration of particulars can never give a genuine induction, a legitimate ascent from particulars to universals. It may answer some of the practical purposes of life, but is loaded down with liabilities to error. In fine, it is not induction at all, but simply judgment. And I may add that this explains why so great a genius as Aristotle should have given such a sorry account of induction; he lived in the pre-scientific age.

For modern science has added to the mere observation or enumeration of particulars another, a higher and supreme method, that of experiment. And by that sign she has conquered. Of course, man has always been, in some crude, bungling fashion, more or less of an experimenter. But science alone has given to experiment its supremacy, systematized it, invented for its use a wonderful array of instruments.

But modern logicians have been strangely blind to the depth and width of meaning enfolded in that

familiar word, experiment. Above all, they have not seen that scientific experiment is of two kinds, two hemispheres of one globe. The one kind is physical experiment, whereby some supposed factor in a causal process is *actually* isolated from modifying agencies. In the other kind, the experimentation is abstract or mathematical; the supposed factor or force is mentally isolated, reduced to so simple a form that its results can be calculated and compared with the actually observed results. This distinction between two kinds of experiment I expect to show is the key to that problem of the inductive method which modern logic heretofore has so dismally failed to solve.

My theory, then, briefly outlined is this: Induction is the discovery of causal processes by means of the two methods just described, physical and mental experiment.

Furthermore, in proving my thesis I shall not follow the usual course of logicians who in treating of induction arbitrarily select out of the immense mass of scientific discoveries and experiments a few special instances that happen to suit their theories. That is sophistry naked and unashamed. On the contrary, my proof will be drawn not from selected fragments, but from the whole—the entire course of scientific development. The sciences will be taken up one by one, and of each it will be shown that its long delay and its final success in becoming a true science—a verified body of knowledge—can be explained only by the principle here enunciated.

(*a*) Concerning the abstract or mathematical sciences the proof has already been given in the preceding section. A necklace of pearls is something different from the individual pearls of which it is composed; nevertheless the individual pearls do not change their nature by being thus strung together. In that sense, and in that alone, we may speak of a geometric demonstration as being a deduction; that is, a composite of many minute inductions skillfully strung together. Each of these simple inductions is an experiment; that is, a mental exclusion of all influences that might modify the result. Each thereby translates the particular seen in the diagram into a universal. But it is unnecessary to repeat what was said only three or four pages before this one.

The abstract sciences, then, are manifestly experimental and inductive—at least for any one with brains enough to comprehend the essential unity of physical and mental experiment.

(*b*) We come then to mechanics, the first of the concrete sciences. Let me begin by quoting what Lotze has well said: "The entire period of antiquity passed away without the conception of motion—the central point in mechanics—having been educed in a simple form enough to be immediately apprehended by the mind in its abstract character. . . . The mind of antiquity never succeeded in separating the simple process in which all motion consists—continuous change of place—from the conflicting peculiarities of those different classes of instances in which it

occurs."[1] All that is manifestly true; and it vaguely anticipates my doctrine that mechanics began to be a true science only by means of a long, difficult course of mental experiment, which gradually excluded all that was adventitious and irrelevant in the ancient view of motion, and thus set forth that concept in its purest, simplest form. For example, even so imperial a genius as that of Kepler wasted twenty years of severe but unavailing toil, mainly because he clung to the old Greek error that the only perfect motion was circular motion. When it finally dawned upon him that both elliptic and circular motions were but variously modified forms of one simple motion or continuous change of place his problem was virtually solved.

Again, Galileo's discovery of the first law of motion is a double proof of my contention. For, first, he arrives at his law by observing that changes in the velocity of a moving body are due to some external agency counteracting or modifying it; hence he concludes that such agencies being excluded, the motion would persist uniformly forever. Second, it is a most significant although little known fact that Galileo's insight into this law was a very defective one.[2] He imagines that motion in a circle, if freed from all foreign influences, would be as eternally persistent as motion in a straight line! So slow, gradual, difficult is this process of mental experiment that even the sublimest of discoverers rarely

[1] Logic, § 360.
[2] Höffding, Hist. Mod. Philosophy, I. p. 180.

grasps the full import of his discoveries; his results have to be rectified by others.

(*c*) Turning now to astronomy, we find there the crowning proof of the principle that induction is the discovery of a causal process by means either of physical or mental experiment. The first named means there was not the faintest possibility of using. For gravitation is not only the most universal and wonderful but also the most deeply hidden of all natural processes. No sense gave a hint of it; no dreamer had so much as imagined it; nothing was perceptible but its results. But one day, according to tradition, the supposition flashed into Newton's mind that the same process which caused an apple to fall to the ground might also produce the celestial motions; and after laboring for years with the most consummate skill, he finally demonstrated the fact. And since then his conclusion has been corroborated in a myriad of ways, and never once contradicted.

But this, you object, was nothing but deduction inverted; Newton's reasoning started from a presupposition. I answer that no physical experiment was ever rationally made that did not start from some supposition that was to be tested. But you further insist that the proof is deduced from the hypothesis or supposition. I answer that on the contrary the proof consists in the exact correspondence of the calculated results with the actually observed results. Or, third, you say that the conclusion is merely probable. I answer that modern calculus has

attained such exactitude that the slightest error would show a discrepancy between calculated and observed results. The chance of error, then, is to the chance of truth as one to millions or billions. With that degree of certainty any sane mortal ought to be content. Fourth and finally, I fall back upon what I have proved and what common sense has always believed, namely, that induction precedes deduction. To call it, then, inverse deduction is like saying that the pyramids were first built upon their apices and then inverted.

(*d*) The creation of optical science is another proof. Here the paramount factor, refraction, had long been known in a vague, general way. But it was known only as a curiosity, an illusion, a strange freak of nature whereby the straight was made to appear bent. As far back as the Alexandrian age some languid efforts had been made to find law and order in these very refractory phenomena, but without avail. Fifteen centuries later even the genius of Kepler was baffled in the same attempt. But at last, in 1622, Snell discovered the law of refraction; the ratio of the *sines* of the angles of incidence and of refraction are constant for the same medium. And that discovery gave birth to the science of optics. From Snell's formula Descartes explained, in part at least, the splendid mystery of the rainbow. Then came Newton with his explanation of colors as due to different degrees of refrangibility. Since then new optical secrets have come flowing forth like water from an unsealed fountain.

Here again we have a crucial test of my contention. Induction is the discovery of the essential factors in a causal process. In the present case the chief factor had been known for untold centuries, but known only as an illusion, a freak of nature, a plaything of idle curiosity. But as soon as this factor becomes really known, so precisely that its changing phases can be calculated and compared with one another, then a new science springs into being.

Mark, too, the *primacy* here of mental experiment. Without that all the countless physical experiments since made would have been impossible.

(*e*) The science of acoustics had a similar origin. Aristotle and the Greeks in general recognized vaguely that sound was not a substance traveling here and there, but was somehow the resultant of the air's motions. And Vitruvius even likened these motions to the *waves* caused by dropping a stone into still water. Here, too, as in optics, there was a dim glimpse of the truth, a crude view of sound as an undulatory process. But it was sterile—a mere conjecture, indefinite and therefore unverifiable. And thus it remained for near twenty centuries until Newton began his researches. With consummate skill he analyzed this undulatory process into its factors, and thus was enabled to calculate what apparently ought to have been the velocity of sound. But there was a fatal flaw in his induction; the calculation was 174 feet per second, less than the observed result. And thus acoustics still lingered on an unveri-

fied conjecture for more than a century.[1] But at last La Place showed that there was in this undulatory process *a neglected factor.* By the sudden compression of the air, heat was generated, and thus the wave-motion greatly accelerated. Due allowance being made for this, the calculated and observed velocities exactly corresponded, and acoustics became an inductive science.

(*f*) We have seen that the creation of the two sciences last considered was long delayed, the one by an inexact, unverifiable conception of the underlying causal process, the other by neglect of an important factor in the causal process. Chemistry, although studied far more zealously, was delayed equally long by a combination of these two causes. In the first place, the neglected factor was, strangely enough, the most potent and widely diffused of all agents in chemical processes, to wit, the atmosphere. Even in the Middle Ages many skillful experiments came to naught and many brilliant discoveries were nipped in the bud by the failure to take account of the atmosphere or its chief constituent. Even in modern times, after oxygen had been actually discovered, very little attention was paid to it for more than a century; the absurd fiction of phlogiston, with its "negative weight," had taken its place. Secondly, the doctrine of affinity was announced far back in the Middle Ages by Albertus Magnus; but it never gained precise, quantitative expression until barely a century ago, through the labors of Dalton. Then,

[1] Whewell, Hist. Inductive Sciences, II. pp. 34-36.

both obstacles being removed, chemistry became a true science. And ever since it has been the wonderful key unlocking untold treasures for mankind.

(*g*) In the science of biology precisely the same law of evolution has been evinced as in the inorganic sciences. More than 230 years ago Leuwenhock with his simple magnifying glasses made animalculæ visible. Thus the very *units* of life were laid bare to human inspection. They were not, as mathematical units are, mere abstractions which the mind has to laboriously create for itself by reflective imagination. Nature and human genius had combined to place them directly before the eyes of all those who wished to study and understand the mystery of life. And yet for almost two centuries but slight attention was given to this new revelation, and little issued from it but some semi-poetic dreams. But a few years ago Pasteur, by patient study of these living units, established the vital theory of fermentation. And from that sprang immediately the germ theory of disease, which has transformed medicine from an empirical art into a true inductive science. And biology itself has entered upon a new stage of existence. One of the most eminent of biologists tells us that the real development of his science has hinged mainly upon this visible disclosure of the physiological process reduced to its simplest units. Only as inquiry, he says, has turned from the highest organisms to study in the lowest the process of life in the concrete, has biology in theory and practice made much progress.

In the above statement we have clearly set before us the two phases of induction. In the inorganic sciences we are dealing with hidden processes whose existence, therefore, can be verified only by the exact correspondence of calculated with observed results. Biology, on the other hand, deals with processes that are partially perceptible and which in the unicellular organisms are presented in their simplest forms—true units of life verifiable by the senses. The two methods, however, differ only superficially, not fundamentally. The only difference between them is the merely formal one between mental and physical experiment.

Such, then, is my theory of induction—the analysis of a causal process into factors verifiable by either physical or mental experiment. And as was promised, the theory has been proved, not by the arbitrary selection of a few favorable instances, but by a survey of the whole course of scientific development, showing that the long delay and final success in the establishment of each science can be accounted for only by the principle here enunciated.

### *Section 4. Other Theories*

Not for the sake of further proof—for there is no need of it—but for clearer elucidation, let us consider some other theories now widely accepted.

Take first the Hegelian theory, which claims to explain the evolution of science by simply asserting that the universe is an organic whole; that is, either a plant or an animal. Its war cry is that "the whole

is the truth"; the parts are self-contradictory and false. Now even if these astounding statements were demonstrably true, instead of being sheer assumptions for which no particle of proof is proffered, still they would be wholly irrelevant to the question of human knowledge. For knowledge of the whole is plainly something far beyond the capacity of the finite human mind. Even the simplest, the most familiar of nature's processes, man knows only in part; every one of them contains inscrutable elements which defy finite comprehension. Therefore, if the whole only is the truth, all human knowledge is but an idle dream.

It may be urged, however, that Hegel's view is now simmered down by his disciples to the saner proposition that we must "assume as a basis of the whole inductive process some postulate which has real universal significance . . . that is understood even if it is not expressed, such as the uniformity of nature."[1] But in Chapter II. I have shown that both uniformity and variability are given together in nature; and that science has reconciled their seeming conflict by interpreting the one as cause, the other as effect. Gravitation, for example, is a rigidly uniform process; but every motion resulting therefrom varies constantly both in velocity and direction. Nature's uniformity, then, is simply one aspect of the causal principle; and that principle is no assumption, nothing *a-priori*, but the first, the widest, the source of all other inductions.

[1] Hibben, Logic Deductive and Inductive, p. 173.

In speaking of Mill's theory of induction, I shall pass over certain evident defects of which the reader can find mention in almost any recent treatise upon logic—such as the attempt to prove nature's uniformity by a mere enumeration of instances or the demand in the Second Canon that "every circumstance save one" shall be in common. I shall confine myself to pointing out the one really fatal flaw in his theory, the one that gives rise to the other defects, and yet the one which seems to have been overlooked by his critics. That flaw is that he does not regard the highest stages of the inductive method as real induction at all. He avers explicitly that the two methods of observation and experiment described in his five Canons "for the study of phenomena resulting from the composition of many causes, being from the very nature of the case inefficient and illusory, there remains only the third, that which considers the causes separately and computes the effect from the balance of the different tendencies which produce it; in short, the deductive or *a-priori* method."[1] But modern science has made it manifest that every effect, motion or change perceptible on this planet is of complex origin, the resultant from a composition of—not, indeed, causes, but of factors in a causal process. Therefore, according to Mill's own statement just quoted, all his famous Canons are inefficient and illusory. In other words, induction is an illicit method, an irrational leap from "some" to "all"; deduction alone is of any real, logical value.

[1] Logic, Book III. ch. 10, § 8.

Thus Mill virtually concedes everything that Jevons, Sigwart, etc., have urged against his doctrine; their view really differs from his only in being somewhat less inconsistent. Further, their view differs from the Neo-Hegelian one only in that it does not speak of induction quite so contemptuously as do Bosanquet and Bradley. That all three views so closely concur shows the instinctive antipathy of all illusionist theories to both science and common sense.

Finally, the view here presented achieves an aim for which logic has long striven in vain. It establishes the unity of all forms of thinking without effacing the evident distinctions between them. Thus in the preceding chapter judgment and inference were both seen to be affirmations of causalty; but the one moved from cause to effect, the other from effects to causes. So in this chapter all inference has been proved to be essentially inductive; and yet deduction still maintains its peculiar scope and value as a linkage of many simple inductions.

# CHAPTER X

## THE EXISTENCE OF GOD

### *Section 1. The Ontological Argument*

In Kant's criticism of the proof of God's existence there is one point wherein his insight seems to me perfect. He saw that all the other proofs rested ultimately upon the ontological argument; if that went down, the other proofs must go down with it. His reasoning upon this point is too prolix and obscure to be quoted here, but it is conclusive.

Nevertheless Kant denied the validity of the ontological argument. So did the most of the medieval theologians. St. Thomas rejected Anselm's reasoning as unduly passing from the ideal to the real order; anticipated, in fact, all of Kant's famous refutation of it. And we are told that "Neo-Scholastics to-day regard the ontological proof as worthless."[1] Among philosophers since Descartes' day, Hegel has been its chief defender; but for Hegel God is merely the "Totality" of the existent; so that his ontological argument seems only to be the senseless tautology that whatever exists, exists.

It may seem, then, foolhardy on my part to seek for what such masters of thought as Anselm, Descartes and Hegel have sought in vain, and which for a century now has been generally abandoned as a hopeless task. But all our studies in the preceding

[1] Perrier, Revival of Scholastic Philosophy, p. 127.

chapters have been a preparation for this work. We have restored to its supremacy that principle of causality which ever since Hume's day has been either discarded or minimized to the utmost. We have found by a close scrutiny of all the forms of thinking —abstracting, relating, conception, judgment, deduction and induction—that the sole essential function of thought is to discriminate between cause and effect. Therefore to cancel causation is to cancel all thinking, involves the extinction of thought. From this vantage ground my present task of demonstrating the existence of God becomes a comparatively simple one. I have only to show that *the conception of a sufficient cause, fully understood, is identical with the theistic conception of God.*

The bare statement of this proposition serves to show the inherent weakness of the ontological argument as it was presented by either Descartes or Anselm. Descartes' argument rests ultimately on the concept of substance, but that, as we have seen in Chapter IV, is a subordinate category dependent upon and unintelligible without the causal concept. Secondly, it is an ambiguous concept; Descartes owns that it has different meanings according as it is applied to the finite or the Infinite. Thirdly, he lays his proof wide open to the destructive criticism of Hobbes and Gassendi, that we have no positive knowledge of substance, but only of attributes.[1] No wonder that his ontological argument with all these defects failed to convince.

[1] Höffding, Hist. Mod. Philosophy, I. p. 225.

The case seems still worse with Anselm. His proof is stated thus: "We possess the idea of a being so great that we cannot conceive a greater. But the idea necessarily implies the existence of that Being; for existence, being a perfection, must apply to the greatest conceivable Being."[1] But that does not prove even that something greater exists. For all we know, all things in the last analysis may prove to be of the same dimensions. Above all, it does not tell whether this something greater is God, devil or a lump of matter.

But my argument is the antipodes to both of these. As we have seen, thought cannot deny the existence of cause without destroying itself. And the ultimate cause must be a sufficient one; otherwise it is no cause at all. The only question before us is, then, simply this: What characteristics are necessarily involved in this idea of a sufficient cause?

And I expect to demonstrate that there are at least four such characteristics—namely, Unity, Infinitude, Freedom and Love.

The first essential feature of a sufficient cause is, then, *Unity*. In proof of that I need only appeal to the fact, which already I have so often verified, that the gist, the soul of a causal relation is that it at once integrates and differentiates. Through the whole chaos of the existent it draws the sharp line of distinction between cause and effect: and the very aim of all this distinguishing is that whatever is thus divided may be united by the firmest and most endur-

[1] De Wulf, History of Medieval Philosophy, p. 164.

ing of bonds. No other relation has this function of unifying without effacing distinctions. It is the peculiar and exclusive prerogative of causality.

Therefore, a complete and sufficient cause must be one. We perceive in Nature a vast variety of causal processes, each containing many partial causes or factors; but the greater the multiplicity of these co-operating factors, these partial and insufficient causes, the greater the demand for some sufficient cause binding them all in one process, and binding all processes in one cosmic system. From the earliest ages all unspoiled intelligence has recognized that truth. Many thousands of years ago, the Egyptians expressed it in their hymn to Amon Rà: "The ONE, Maker of all that is; the One, the only One, the Maker of existence."

The second elemental feature of a sufficient cause is its infinitude. The proof of that is so simple that it may be given in a line or two. Whatever is finite is limited by something else, and therefore must, to that extent, be an effect; it may also be a partial cause or factor, but never a complete, self-sufficient cause.

But here, too, we must guard against the all-pervading fog of modern metaphysics. For it may be objected that in thus declaring the Infinite to be the only sufficient cause, we annihilate all finite things by depriving them of all the activities and potencies that constitute their real existence. On the contrary, instead of thus yielding to the most fatal of Spinozistic errors, we build a strong, an insurmountable

barrier against it. For, Spinoza's error here—as almost everywhere else—is due to his minimizing, his virtual abolition of all causality. He rejects transeunt causes altogether, and admits of immanent causes only in the emasculated sense whereby they are deprived of all real activity and reduced to merely static or mathematical relations. But here we conceive the affirmation of causality in that wide, full sense belonging to it as the sole essential function of all thought. And in this comprehensive view, we find ample room for both infinite and finite causation. Our view, then, does not destroy things or take away the activities and potencies which constitute their reality. What thought finds in the world is a vast complex of causal processes wherein perceptible things are factors. Things perform their several functions: they act and are acted upon. They may have, as some scientists still believe, "resident forces" secreted within them; or the forces may be but expressions for the uniform modes of action or movement characterizing the things. "It all comes to the same in the end." No perceptible thing is a complete or sufficient cause; yet things exist and act.

Thus we seem to have the solution of another problem that has long troubled philosophy and religion. The Cartesian occasionalism still has a strong hold upon many of the most sincere and profound among theistic thinkers. But let us call a metaphor to our aid. A manufacturer is rightly regarded as the maker of the fabrics he sends forth, although he makes use of hundreds of other agencies

to attain his ends. In a far deeper and truer sense than that, God is the only sufficient cause of all; and yet each atom or electron plays its part in the cosmic mechanism.

The third characteristic of a sufficient cause is *freedom.* Whatever is necessitated to act cannot be the complete, sufficient cause of that act; that which necessitates it is the real and ultimate cause.

Here we have another of those truths, simple, as obvious as an axiom, and yet befogged by human perverseness. Has not the renowned Kant proved that a free cause is utter nonsense? That it contradicts the very law of causation itself? But look a little closer and you will see that this Kantian law of causation is a mere trick, an underhanded denial of all true causality. Kant had succumbed to Hume, given up causation, substituted for it mere sequence —a series or procession of events wherein each event is cunningly called the cause of the next event in the procession. Now it is true that such a series can be used for purposes of calculation: knowing the diameter of a car-wheel and the rate of its revolutions I can compute the distance traversed in a given time, even if I have no knowledge of the cause producing those revolutions. But that gives no warrant for denying a cause or for pretending, as Kant does, that each revolution is the cause of the next.

Hegel rightly asserts that all of Kant's antinomies are "sham demonstrations." But this third antinomy, with its spurious law of causation and its underhanded denial of all true causality, is the most

palpable sham of all. As Höffding says, Kant failed to solve Hume's problem; in my opinion, he ought to have owned the fact instead of hiding behind this pitiful evasion.

So skilled a reasoner as Kant, then, could find no argument against a free cause, except by virtually denying all real causality. But such a denial I have proved to be equivalent to the extinction of thought. Despite Kant, then, it remains obviously true that a sufficient cause must be a free cause. If it is necessitated to act then what necessitates it is the true and ultimate cause.

Unity, infinitude and freedom, therefore, are demonstrably three essential characteristics of a sufficient cause. There remains now to be proved only the fourth characteristic; but that is of such transcendent importance that we give to it a special section.

*Section 2. Ontological Proof of God's Love*

To many my doctrine here will seem pure nonsense. But let them rise above the prevailing tendency to minimize, degrade, even deny causality; let them see the full import of that revelation which it is the essential function of thought to make known —then they will see that the supreme characteristic of an ultimate, sufficient cause is love, action not for one's own sake, but for the sake of others. And here, too, the proofs are simple and obvious. First, whatever acts only to supply some lack or want of its own cannot be a complete or sufficient cause; for what was wanting or lacking would be an alien element and the real cause of the action. Any one can

see the force of this who can rise above the idea of cause as mere senseless mechanism.

(2) Again, an infinite being lacks nothing that it needs: and therefore if it acts at all—causes any change or effect—it must act for the sake of others. Perhaps we may even extend this rule to finite beings, so far as to say that all selfish activity is reflex, automatic, that there is no real freedom save in self-sacrificing activity.

(3) My argument can be further fortified by turning from what is involved in the thought of cause to consider what is involved in the thought of love. And here let me recall that new interpretation of the passions recently made by Mr. Shand and widely accepted by those best fitted to judge. In his sense of the term passion—an organized system of emotions —there are but two passions, love and hate. And of these two love is the fundamental, the universal, and above all the only *creative* one. We grow into love naturally; but we are driven into hate by a kind of inversion of our natural life. From the child to the old man love multiplies and branches into new directions, reorganizing the same old emotions in new objects; but hate is an ugly episode from which we are in a hurry to escape unless our nature be peculiarly evil. Hence hate is often a barren passion which by destruction of its object destroys itself and branches into no new system.[1]

The truth of that and its value for my argument are evident. Hate—and, in a measure, indifference

[1] Mind, October, 1902, p. 493.

also—are destructive. Love is creative. But a complete cause is essentially creative; therefore its main, its supreme characteristic is love. McTaggart also, in his studies of Hegel, reaches the same conclusion in regard to the Absolute, more, however, from sound intuition rather than any cogency in his "dialectic."[2]

Here, then, we have three strong lines of proof interwoven into one argument—incontrovertible, at least theoretically—showing that the supreme characteristic of a complete Cause must be self-sacrificing love. But from the practical point of view there come two weighty objections that must be considered. The first and strongest of these is *The Problem of Evil.*

And I begin by drawing aid from an unexpected source—from Hume, who, arch-skeptic as he was, had yet a wonderful insight into the depths of things. From his Dialogues on Natural Religion I quote the following: "Supposing that this person (a visitor from another sphere) were brought into this world assured on *apriori* grounds that it was the workmanship of such a sublime and benevolent Being, he might be surprised at the disappointment, but would never retract his former belief if founded on any solid argument; since such a limited intelligence must be sensible of its own blindness and ignorance, and must therefore allow that there *may* be many solutions of these phenomena which will forever escape his apprehension. But supposing, which

[2]Hegelian Cosmology, § 285. Also Commentary on Hegel's Logic, § 295.

is the real case with regard to man, that this intelligent creature is not *antecedently* convinced of a Supreme Being benevolent and powerful, but is left to gather such a belief solely from the appearance of things, this entirely alters the case; nor will he ever find any reason for such a conclusion. He may be fully convinced of the narrow limits of his own understanding, but this will not in those circumstances help him to infer the goodness of the omnipotent Power, since he must form his inference from the facts he knows, not from what he is ignorant of."

I answer that Hume's first supposition slightly modified is the correct one. It needs modifying only to the extent of dropping that false suggestion of innate ideas or Kantian a-priorities which it contains. Man does come into the world equipped, not with intuitions, but with the means of attaining to an assured knowledge of the world as the workmanship of an infinite and benevolent Being. For he comes endowed with the prerogative of thought; but to think is to affirm causality; and as my ontological argument shows, we cannot conceive of a complete or sufficient cause except as free, one, infinite and benevolent. Man having thus attained to a demonstrable belief in God might behold many appearances that seemed to conflict with it; but, just as Hume says, he would never retract it. Or rather he never could retract it, except by refusing to think.

Hume's only error, then, consists in assuming that we have no means of gaining a knowledge of God save through the appearance of things—a method

obviously precarious, varying immensely in its results according to the moods and disposition of the observer. But that grave error we have now effectually eliminated. Our ontological argument has disclosed another method of reaching such knowledge, a method so simple and certain that it can be challenged only by denying the causal principle, and that denial is equivalent to the extinction of thought. And now we have the confession of the greatest of all skeptics that such an assurance would stand secure against all judgments drawn from the appearance of things. In fine, it is our belief or disbelief concerning God which determines our estimate of the good and evil in the world; and not conversely.

But there is a second objection to be considered. If the knowledge of God is thus deeply rooted in the very nature of all thinking, how happens its genesis to have remained so long hidden? Why has this pure and lofty conception of the Deity so rarely prevailed in history? Why has it so often been degraded into grotesque or even demonic forms? I answer that there are many irrational and evil tendencies, many diseases of the soul that contend against it mightily.

Take the case of India, for example. The farther we go back in her history, the purer and the more exalted her religion appears. In the earlier Vedic hymns there are no evil divinities; there is a persistent impulse to regard all the gods as but so many different names for One God. Above all, Vedic religion was pervaded through and through by what

has been aptly called the apotheosis of sacrifice. Sacrifice was the first principle of morals; nay, more it was the condition upon which the cosmic order depended. If there should be no sacred offerings, the course of the seasons, the succession of days and nights, the steadfastness of the firmament would cease.[1] "In the beginning of time, the Supreme Being created all things *by the sacrifice of himself.*"[2] In one famous hymn it is said:[3] "So the gods through sacrifice gained the right to sacrifice." You deride all this as priest-craft, or call it, as Oldenberg does, "empty mummery, a disease of Vedic poetry." Nevertheless, this poetry preserves the primitive view of creation as an act of self-sacrifice on the part of the Creator. In the Scandinavian Edda, for instance, a similar account of creation is given. In the Zendavesta, Ahura Mazda offers sacrifices to the lower divinities whom he has created.

And Hindu philosophy clearly maps out the road which led to the decay of this primitive universal belief in an Infinite Being creative and self-sacrificing. Thus the Sankhya philosophy denies all creation for the following reason: "Every intelligent being acts from self-interest or beneficence . . . a creator who has all that he can desire has no interest in creating anything. . . . The demi-urge would be unjust and cruel." Sankhara, head of the rival school, concurs; so we have unanimity on this point. Unhappy conditions described in my Philosophy of His-

[1] Manu, III. p. 76.
[2] Brhaddevata, Harvard Oriental Series, II. p. 369.
[3] Rig Veda, X., pp. 90, 16.

tory had sapped the primitive belief; evil-gods had arisen; sacrifice was a priestly farce; the world was so bad and false that its creation would be an unjust and cruel act.

Hindu philosophy thus unveils the process—one that went on more unconsciously among less intelligent races—which undermined the primitive faith. Still this primeval conviction was too fundamental, too deeply rooted in the very nature of thought, to perish utterly. It lives in some of the noblest utterances of Indian poetry. Listen, for example, to Krishna: "Look at me, Arjuna! If I stop from work for one moment the whole universe will die. Yet I have nothing to gain from the universe. I am one Lord. I have nothing to gain from the universe, but why do I work? Because I love the world."

### *Section 4. The Cosmological Argument*

The ontological proof, then, stands by itself; it is the basis of all other proofs, but needs the support of none. The chief value of the cosmological argument is, therefore, to ward off misconceptions that might imperil theistic belief just as pessimistic views and fears of cosmic phenomena undermined the faith of India. Let us consider the chief of these errors in so far as they have assumed philosophic form in modern thought. For this purpose, I begin with Malebranche, in whom Cartesian orthodoxy culminated, and from whom there is a direct line of genealogy through Berkeley, Hume and Kant to the pantheistic monism of the present day.

(1) Malebranche's primal error—one shared by

the entire Cartesian school from its founder to Spinoza—is that of the *Divine Egoism.* "God Himself is the single purpose of all divine activities; what He creates He creates for Himself; He alone is the cause and the end of all His creatures."[1] That doctrine dominated the age in so far as it remained Christian. It is the core of Augustinian and Calvinistic theology. According to St. Augustine, the expression "mercy" had only a figurative meaning when applied to God, because it implies suffering through the suffering of others. Spinoza, too, rapt "in the intellectual love of God," dreamed of no love in return. Jonathan Edwards also, America's one philosopher, tempered his exile among the savages by ecstatic visions of "God's Infinite Love for Himself."[2] This greatest of American thinkers has been well described as "a sort of Spinoza—Mather."[3] But how strangely this doctrine of the Divine Egoism contrasts with Krishna's cry as given by the Hindu poet: "I have nothing to gain from the universe, but why do I work? Because I love the world."

(2) Malebranche's second great error was his denial that things could in any proper sense be regarded as causes. "To conceive them as secondary or relative causes is the most dangerous of all the errors in the philosophy of the ancients." It is pure paganism; it converts inert things into "little deities." For to exist a power of causality is to produce, to create. To be a cause is to be God. "If God is to be re-

[1] Rech. de la Verité, liv. III. part II. ch. 6.
[2] Riley, American Philosophy, I. pp. 180-184.
[3] Leslie Stephens, Hours in a Library, I. p. 329.

garded as the absolute, highest and first cause, while things are lower, relative and secondary causes, God and the world would then *differ only in degree;* things would be causes, only with less power."

But I have invalidated that plea fully and finally. The difference between the causality of God and that of things as factors in causal processes is not merely quantitative—in degrees of power. There is also an infinite difference in the kind or nature of the power. For first, Infinite cause is free, nothing compels him to create; but things are not free, their action is necessitated. Secondly, the activity of things is limited to the production of *motion:* the Divine activity reaches far beyond that narrow range. Third, things are unconscious, know naught of the processes wherein they function: God is conscious, planned the processes and maintains them for the sake of His creatures.

But why, it may be asked, dwell so long upon the vagaries of an almost forgotten thinker, instead of going on to later and more advanced thought? I answer that in philosophy there has been no such advance, but rather retrogression. For modern philosophic thought has been steadily moving in the wrong direction; and therefore the greater the genius, the toil, the marvelous ingenuity of the thinkers, the farther away they have been carried from the goal. To what was bad in Cartesian speculation—its illusionism—Hume and Kant and Hegel cling; what was good in it, its firm belief in God, they fling aside. Kant surrenders all claim to any

reasoned knowledge of God's existence, "in order to make room for faith." As for Hegel, even his admirers now seem to hardly dispute that his Absolute Idea is naught but a travesty upon the theistic conception of God. McTaggart admits it openly and apparently rejoices in it. Professor Calkins more reluctantly says: "But though Hegel over and over again asserts, or implies that ultimate reality is an Individual, and not merely a system of co-ordinated parts or an organism, it must be admitted that he nowhere explicitly outlines the argument for this highly significant conclusion. To the present writer, this neglect seems the greatest and most inexplicable defect of Hegel's Logic."[1]

But no one should be condemned for neglecting a task that is obviously impossible. And there was never a more obvious impossibility than that of converting Hegel's Idea—a mere "tissue of logical relations," as Eucken calls it—into the conception of God.

### *Section 5. The Argument from Design*

Kant undoubtedly succeeded in showing that the ordinary argument from design does not fully sustain the theistic conviction. To make the argument adequate and conclusive we must vastly widen its scope and tenor. And from our present point of view that expansion is readily attained. We do not need to go groping here and there for some stray indications of contrivance in Nature that seem to have some dim analogy to human efforts which, af-

[1]Calkins, Persistent Problems of Philosophy, p. 380.

ter many trials and errors, finally find some means of realizing their ends. On the contrary, we must look out upon the countless causal processes of Nature as inductive science has revealed them to us, with all their infinite complexity, even in what seem their simplest phases, with all their intricate interlocking of one into another, and of all into the scheme of cosmic evolution; and we shall thus find going on everywhere around us the constant revelation of infinite wisdom and love. Thus we shall get rid of that imaginary conflict between science and religion that has wrought such havoc in the spiritual life of Christendom. When the simple difference between the Sufficient Cause and causal processes is clearly recognized, the old antithesis between mechanism and theism will be numbered with the superstitions of the past. The more that science discloses concerning the marvels of nature's mechanism, the greater will be our knowledge of the Infinite Cause that planned, established and maintains it all.

(1) From this point of view let us consider Kant's criticism of the argument from design. First, he argues the proof from design can, at most, demonstrate only the existence of an architect of the world whose efforts are limited by the capabilities of the material with which he works, but not of a creator of the world to whom all things are subject. I answer, that instead of being limited by an intractable material, God is the author and maintainer of those causal processes without which the very existence of the material would be impossible. The

matter which enters into no process has no qualities or properties, and therefore is—nothing. Hegel spoke the truth there.

(2) Kant further objects that no one will be bold enough to declare that he has a perfect insight into the relations which the magnitude of the world . . . bears to omnipotence, etc. I answer that such a requirement is preposterous. It implies, so far as Kant's obscure statement can be understood, that to know God as infinite we must know Him as Creator of an infinite universe. But of the true God, infinite wisdom must be predicated as well as infinite power. And it would be the acme of unwisdom to create a universe that would thus transcend all possible needs.

# CHAPTER XI

## FREEDOM

### *Section 1. Deterministic Arguments*

(1) BRADLEY says: "Free-Will is a mere lingering chimera. Certainly no writer who respects himself can be called upon to treat it seriously." That style of argument, which unhappily is not confined to Bradley, I certainly shall not treat seriously.

(2) A more convincing argument is that presented by Sir Wm. Hamilton: "A determination by motives cannot to our understanding escape from necessitation. Nay, were we even to admit as true what we cannot think as possible, still the doctrine of a motiveless volition would be only casualism; and the free acts of an indifferent are morally and rationally as worthless as the preordered passions of a determined will."

The stronghold of determinism is in the last clause quoted. Indubitably, volitions which have no motive are morally and rationally worthless. But the fallacy lies in assuming that motives necessitate, compel in the same mechanical way that the impact of one moving thing impels another to move. Believers in freedom have long protested against this assumption as altogether arbitrary, an empty assertion for which no particle of proof is offered. But, from our present point of view, we may go much

farther; we can show this assumption to be not only unverifiable, but as in the highest degree improbable, irrational and even absurd. It springs from an obvious confusion of thought, a crass materialistic identifying of the psychic and the physical. Motives are thoughts and feelings: they are not things that flung into some imaginary balance would act as iron weights act. Furthermore, we have the plainest evidence that mental activities produce their results in altogether a different manner and under different laws from those that govern the action of things. Long ago Lotze pointed out something of this contrast between mechanism and thought. He says: "Two impressions, such as the ideas of red and blue, do not fuse mechanically; they do not mix with one another, disappear and so form a third—the idea violet. But the mind holds them together and yet apart, and the idea of their likeness and difference arises. . . . So given two impressions $a$ and $a$, that which arises from them is not a third impression $= 2a$, but instead there arises the idea of identity. Wundt has developed Lotze's view still farther. In the realm of the corporeal, he says, $a$ and $b$ are units in a common resultant $c$, including in part a new movement, in part transformation into heat, but always in such a way that $c = a + b$. But take three musical notes and call their sensation values respectively $x$, $y$ and $z$: the result will be not $x + y + z$, but harmony, a greater and qualitatively different result. So in motives, let $m$ be a motive for, and $n$ a motive against some volition, the result

will be not *m-n*, but may be a double or three-fold *m* or *n*.

What Lotze and Wundt began I have developed still further. Their outlook shows an evident difference between the methods of mechanism and those of thought. But the difference might prove to be only a superficial one which concealed an underlying identity. But I have conclusively shown that this difference is not merely on the surface or incidental, but fundamental and all-inclusive. I have proved it to be the primary and unfailing prerogative of our mentality that it is always able to reverse in thought the actual movement of physical processes. The course of nature is irreversible from cause to effect; but reason is not thus bound; it moves at will in either direction from cause to effects or from effects to causes. Moreover, this reverse movement is the paramount one, the source of the mind's highest activities and most sublime achievements. As we have seen in Chapter IX, this passage, from observed results to their causes, universals or laws, is the secret of Induction—and therefore the source of that modern science which is lifting mankind to such wondrous summits of knowledge and power.

Finally this double movement of the mind is the evident revelation of moral freedom. It makes it not only perfectly comprehensible, but also *inevitable that two alternatives should forever hover over human existence.* Man has thus always to choose whether he shall be moved by momentary impulse, as other animals are, or whether he will be guided

by his insight into the universal, the infinite, the eternal.

(3) It is, perhaps, some dim glimpse of this greatest of all truths, or at least some recoil from the absurdity of supposing that human wills were moved by impact like billiard-balls, that has led many determinists to deny causality altogether in any proper sense of the term. Necessitation, they urge, is a mere fiction; it means nothing but invariable sequence and predictibility. Thus Mill says: "If necessity means more than this abstract possibility of being foreseen, if it means any mysterious compulsion apart from simple invariability of sequence, I deny it as strenuously as any one."[1] And in his Logic he is still more explicit: "We are certain that in the case of our volitions there is not this mysterious constraint. We know that we are not compelled as by a magical spell to obey any particular motive. . . . It would be humiliating to our pride and paralyzing to our desire for excellence, if we thought otherwise."[2] But surely that is a pitiful evasion, an effort to escape by raising a cloud of verbal dust. (*a*) For it has been proved in Chapter VI. that sequence, like any other temporal relation, implies causality or necessitation; without that, succession would be utterly meaningless and unintelligible. (*b*) Again necessitation is implied in the qualifying term, "invariable"; for what is invariable is necessitated to remain what it is. (*c*) Confronted

[1] Mill, Examination, Hamilton's Philosophy, II. p. 300.
[2] Logic, Book VI. ch. 2, § 2.

by Reid's objection that day is not the cause of night, although it is invariably succeeded by night, Mill adds another proviso—namely, that the sequence must be unconditional. In other words, night is not caused by day, because it is caused by something else. That seems a curious way of disproving causality or necessitation.

All this serves to show how closely the denial of freedom is bound up with the denial of causality.

(4) Another evasion very much in vogue among determinists is an appeal to what they describe as "the law of causation." Höffding, for instance, assails freedom with an argument the gist of which is as follows: "Determinism asserts the continuity of the development of consciousness; it asserts the causal connection in the department of the will. Indeterminism, which teaches the existence of causeless acts of the will, absolutely destroys the inner connection and the inner continuity of conscious life."[1] To this I have three distinct answers to make, each final and inappellable.

(*a*) Firstly, free volitions are not causeless. Höffding, like most determinists, has simply abolished all real causation and substituted for it the idea of uniform sequence. He says expressly that the law of causation is merely derivative, an offshoot from the law of continuity[2] or identity. In other words, he abstracts from everything but an endless series of motions, each one transformed into

[1] Höffding, Psychology, p. 346.
[2] Höffding, History of Modern Philosophy.

the next and that into the next, and so on forever. Each motion in the series is assumed to be the cause of the next succeeding one. And just so he also assumes that each volition is caused by some preceding volition, desire or event. One might as well assert that one revolution of a wagon-wheel was caused by the preceding revolution, and not by the horse that pulled the wagon and caused all the revolutions.

But if you deny this fantastic scheme, if you insist that your present volition was caused not by some prior volition, but by *yourself* as a free agent, you are accused of teaching that volitions are causeless! Could anything be sillier than that?

(*b*) The principle upon which Höffding's plea against freedom is based—namely, the identity of cause and effect—is flagrantly false. It is one of Hegel's most absurd contentions. And here fortunately Hegel's reasoning has so little of its usual obscurity, that a school-boy might see its emptiness. First, he treats of what he designates as Formal Causality, that is, the relation of substance and accident. The substance and accident are so closely connected that the accident is implicitly the substance. "The house is white" means that the whiteness is the house. Surely, as even McTaggart says, "this is invalid."[1] Secondly, Hegel turns to his so-called Determined Causation, and here he gives four examples. The first of these is that rain makes things wet, and that the rain and the wetness are the same

[1]McTaggart, Commentary on Hegel's Logic, § 170.

water. Hardly any one could fail to see the folly of that; and the other three are no whit better. As McTaggart says, there are two fatal objections to Hegel's position, and he adds: "Thus we must reject Hegel's theory of the identity of Cause and Effect."[1]

But the vogue of this identity doctrine is not entirely due to Hegel's influence. It is an evident offshoot of the tendency to reduce causality to a mere sequence of effects. If, to use my illustration again, you regard one revolution of the wagon-wheel as the cause of the next revolution, then cause and effect do seem almost identical. But if you regard them both as effects caused by the horse, the identity seems very dubious.

(*c*) Höffding further avers that indeterminism destroys the inner connection and continuity of conscious life. And there he does strike a heavy blow at a very weak spot in the ordinary defense of freedom. For heretofore the defenders of free-will have at this point oscillated between two mistakes, both fatal. On the one hand they have tried to pick flaws in that supreme principle of science, the uniformity of causation. And, on the other hand, they have argued that human volitions formed an exception to the great law of uniformity. Both of these positions seem to me grievous, even suicidal errors. And in their place I substitute the following principle as governing the moral life of mankind:

*In the free activity of man, uniformity is not so completely realized as in the activities of Nature;*

[1] *Ibid.*, p. 174.

*but this defect is more than counter-balanced by the far higher and nobler character of the former uniformity compared with the latter.*

And the gist of that is that freedom alone makes individual development possible: and without such free development there is no virtue. We must see our defects, and believe in our ability to correct them if we would climb higher. Determinism bars all development by teaching that our conduct is necessitated by our characters, by what we have been. On the contrary, it is our free action which determines our character, checking the evil, developing the good. Even deterministic moralists unconsciously concede this. Thus Leslie Stephen says: "Virtue implies a certain organization of the instincts."[1] And Bradley utters the same truth in his wild Hegelian phraseology: "Be an infinite whole."[2] Mill, too, makes the famous concession that "our character is in part amenable to our will." In fine, moral progress or development is absolutely inconceivable, if human life is but a succession of events of which each determines the next following, and so on in an endless series. Freedom, then, instead of destroying, as Höffding asserts, alone makes possible any real connection or continuity of development in man's conscious life.

(5) But the argument invented by Hume seems to be the favorite one among recent deterministS; on this account I quote it more fully than its intrinsic

[1] Science of Ethics, p. 302.
[2] Ethical Studies, Essay II.

importance would otherwise deserve. Hume says: "According to the doctrine of liberty or chance this connection is reduced to nothing, nor are men more accountable for their actions which are designed and premeditated than for such as are most casual and accidental. . . . As the action proceeds from nothing in him that is durable or constant and leaves nothing of that nature behind it, 'tis impossible that he can of its account become the object of either punishment or vengeance. According to the hypothesis of liberty, therefore, a man is as pure and untainted after having committed the most horrid crimes as at the first moment of his birth. . . . 'Tis only from the principle of necessity that a person acquires any merit or demerit from his actions, however much the common opinion may incline to the contrary."[1]

Remember now that Hume denied all reality, outward or inward, except that of a series of impressions and ideas. For such absolute skepticism, freedom is of course inconceivable. Nothing exists but the succession of thoughts; and even between them there is no real relation except that they succeed one another.

Nevertheless, eminent philosophers, like McTaggart, Bain, Fullerton—even so eager a realist as Hobhouse—are still rehearsing, almost word for word, Hume's argument as an irrefragable proof of determinism. As Mill said of Hamilton: it is enough to make one despair of the human intellect.

[1]Hume, Philosophical Works (Edinburgh, 1826), II. pp. 164, 165.

## *Section 2. The Proof of Freedom*

Determinism, then, seems throughout fallacious and sophistical. But is there any positive proof of freedom? Or are we left in ignorance concerning the whole matter of dispute? I answer that there are four impregnable proofs.

(1) The first starts from the truth demonstrated in the preceding chapter that a perfect cause must be free. Man, however, as a finite being, can be only a limited, partial cause. But this limitation is in no wise incompatible with moral freedom; for he might still be a free cause *within a limited sphere.* And no sane man would claim absolute freedom; he knows that in most respects he is as much under the bonds of mechanism as a brute, a plant, a stone.

But mark now that these very bonds give to him the assurance of his moral freedom. For throughout his life, he has had constant experience both of the bonds and the freedom, and has thus been qualified, in the best of all schools, to distinguish between them.

Therein we have the answer to Spinoza's famous plea for fatalism—that "the idea men have of their liberty arises from this, that they do not know the causes of their actions." On the contrary, the whole course of life is a prolonged teaching of the difference between the bond and the free. Furthermore, Spinoza doubly errs, in that he assumes that man cannot discern differences unless he knows the causes producing them. Men distinguished red from green

long before they knew the causes producing that diversity of color.

(2) Again, to be free is to be responsible. And man's responsibility is proved by the simple fact that he is a conscious being knowing the nature of his act and the trend of its results. No matter how much he may be influenced by his environment, by heredity, acquired habits or character, he is at least a conscious factor, an accomplice in the evil act. Nothing can acquit him of moral responsibility, except positive, full proof that he was compelled to so act, could not act otherwise. But the determinist has not the shred of any such strict proof; as I have shown, his theory rests upon sheer assumptions. Therefore, determinism is an effort to shuffle the responsibility for an evil act upon some one else; and we are all agreed that such an effort adds a new element of unspeakable baseness to wrong-doing, unless we can clearly prove our non-responsibility. Indeed, it is this which turns misconduct into sin. For, according to determinism, the responsible party is not the evil-doer but the God who made him.

(3) Another proof is that cardinal fact of the reversibility of thought to which I have already alluded. Martineau has done well in recognizing that the relation of the thing to its properties is precisely inverted in the relation of the self to its characteristics.[1] But the defect of his view is that it does not explain *why* this is so. It leaves this inversion as a mere brute fact, a mysterious exception, an entire

[1] Types of Ethical Theory, II. p. 39, seq.

antithesis to the entire course of events throughout the rest of the universe. Now the modern scientific spirit, with its profound passion for unity and continuity of development, is revolted by the bare suggestion of any such impassable chasm yawning at the very center of things. And it is this feeling, apparently, which has led so many otherwise able scientists into their wild attacks upon the doctrine of moral freedom.

But from our present point of view this difficulty is readily overcome. For this law of reversal or inversion is not confined to the field of morals alone; on the contrary, it extends over the whole realm of human thought. It was, in fact, in the field of purely intellectual phenomena that I first discovered it. In Nature the course of cause and effect is irreversible, but human thought knows how to exactly reverse this course and thus passes as readily from observed effects to their causes as from causes to their effects. In fact, as was proved in the chapter upon Induction, it is this former movement, that, from observed effects to their causes, which forms the real gist, the very essence of all acts of reasoning whatsoever; even in the mathematical sciences what are called deductions are but ingenious complexes of many inductions, in each of which a particular fact observed in the diagram is transformed into a universal.

If we turn now from the intellectual to the moral realm we find the same supreme law of reversal at work. The mere animal is governed solely by its antecedents—its inherited character, acquired habits,

environment, etc. Man being also an animal is in large degree governed in the same way, that is, by his preformed character. But along with this there goes the recognition of right and wrong; the man sees that his character is bad, or at least stands in much need of improvement; he resolves to be the master, not the slave of his character, the habits and impulses of the past. Thus a complete reversal takes place. The man was fatalistically determined by his character; henceforth he determines his character, within limits modifies and transforms it at will.

There is then in moral freedom nothing exceptional, nothing repugnant to either the teaching or spirit of science. On the contrary, the movement of the will in moral action precisely corresponds to the movement of thought in scientific induction. The same law of reversal rules in both hemispheres of the mental world.

(4) That all ethical notions, such as right and wrong, duty, merit, desert, remorse, repentance, guilt, etc.—in fine, that the entire system of ethics instantly collapses when the conviction of liberty is withdrawn is evident at a glance. There is nevertheless in this argument as a whole, despite its truth in details, a fatal flaw; and I shall confine myself here to the pointing out and removal of this great defect.

The flaw is that the argument, as a whole, is mere reasoning in a circle. All acute moralists have been more or less aware of this; Kant was especially so. He says: "It must be frankly admitted that there is

here a sort of circle from which it seems impossible to escape. We assume that, as efficient causes, we are free, in order to explain how in the kingdom of ends we can be under moral laws; and then we think of ourselves as subject to moral laws because we have ascribed to ourselves freedom of will. Freedom of will and self-legislation of will are both autonomy, and, therefore, they are conceptions which imply each other; but for that very reason, the one cannot be employed to explain or to account for the other.[1] Hence, freedom is only an *idea* of reason, and therefore its objective reality is doubtful. . . . The conception of an intelligible world is therefore merely a *point of view* beyond the world of sense, at which reason sees itself compelled to take its stand, *in order to think itself as practical.* . . . Reason would therefore completely transcend its proper limits, if it should undertake to explain how pure reason, or, what is the same thing, to explain *how* freedom is possible." Kant then admits that freedom is incomprehensible, his utmost claim is that "we can comprehend its incomprehensibility."

Nor has any other defender of freedom, so far as known to me, ever been able to escape from this circle. To Fichte, for instance, freedom is a mere matter of faith in a still more irrational form than with Kant. "I *will* be independent, hence I resolve to consider myself independent. . . . Hence our philosophy starts from a faith and knows it."[2] Hegel

[1] Metaphysics of Morality.
[2] Fichte, Science of Ethics.

gave up freedom utterly; it never means for him anything more than absence of external restraint;[1] to attack the ethics of Kant and Fichte "was a temptation which he was never able to resist."[2]

But my doctrine does provide a simple and yet sure way of escape from this circle. To conceive causality aright we must interpret it not from its imperfect inadequate types in finite existence, but in its highest, most perfected form accessible to our knowledge. Neglect of this second truth was Descartes' fundamental error: starting from a dubious contemplation of his own self or ego, he is never able to rise from that low level to any really logical certitude concerning the existence of God, of the world or even of himself: everything becomes problematic. And philosophy ever since has been infected with the same pale and sickly subjectivity. But the worthlessness of all these attempts to explain the universe from the analogy of the human spirit is evinced by two considerations. First, the method is an intrinsically fallacious one; mere analogies can give no true induction. Second, this very self, by analogy with which everything else was to be interpreted, has constantly been fading more and more into an object of doubt and dispute. But we have now found a more secure basis for ethical philosophy than that—namely, the knowledge of God as the one, infinite, free, self-sacrificing and all-sufficient Cause. To discredit that conception is impossible;

[1] McTaggart, Commentary Hegel's Logic, § 185.
[2] *Ibid.*, § 30.

for its cancellation logically involves the extinction of thought.

Thus we avoid the rock on which the Kantian ethics and all similar systems are wrecked. We do not try to prove freedom by assuming the reality of the moral law, and then to prove the moral law by assuming the reality of freedom. But we recognize them both as cognate facts, presented in all human experience, verified and explained as resultants from an Infinite Cause acting for the sake of others. Thus we avoid that reasoning in a circle which Kant confesses to be inevitable in his ethical system. Thus the ordinary argument from morality to freedom is freed from that fatal flaw of which I spoke. It becomes a sound, a strong convincing proof of freedom to argue that if determinism is true, morality is a silly superstition.

### *Section 3. The Moral Order of the World*

The closing words of Sidgwick's great work upon the Methods of Ethics are these: "Hence the whole system of our beliefs in the intrinsic reasonableness of conduct must fall without an hypothesis, unverifiable by experience reconciling the Individual with the Universal Reason, without a belief in some form or other that the moral order which we see imperfectly realized in the actual world is yet actually perfect. . . . Reject this belief and the Cosmos of Duty is reduced to a Chaos and the prolonged effort of the human intellect to frame a perfect ideal of rational conduct is seen to have been foredoomed to failure."

But this belief in the moral order of the world is by no means a mere "hypothesis unverifiable by experience." Such a belief cannot, indeed, be established by generalization from the chequered, conflicting experiences of life; for our estimate of life changes with our ever-changing modes; in one mood all is brightness, in the next all is dark and evil. But I have now established this belief on solid foundations by showing it to be logically derived from the conception of an Infinite Cause whose activity is for the sake of others. To cancel that conception is to cancel all causality, and that means the extinction of thought.

You urge, however, that the injustice and inequalities so evident in life prove that Nature is unmoral, indifferent to right and wrong. But Jesus, whose insight into morals has revolutionized the world, did not think so. He takes this seeming indifference, this unswerving uniformity of Nature as the very symbol and proof of God's love. "He maketh His sun to rise on the evil and the good, and sendeth rain on the just and the unjust." And we can readily see the verity and splendor of this unexpected view. Nature veils reward and punishment in order that true freedom and virtue may be developed. God is no slave-driver standing behind us with a lash ready for every evil act, and a bribe for every good one. If His judgments were "speedily executed," we should be as moral as pigs are when they run to the trough at the call of the swine-herd. But through darkness, suffering and unrequited toil man gains

access to all that is sublime and really divine in life.

The belief in the moral order of the world, then, must start from our demonstrated knowledge of God; not conversely, as Kant supposed. But when this belief is thus firmly fixed in the mind, it is confirmed and deepened even by the very facts of experience that had seemed to contradict it: and that is always one chief test of a genuine scientific discovery.

Furthermore, if morality is to endure, it must henceforth be founded upon the solid rock. In a more credulous age faith sufficed to keep truth alive. But the chief characteristic of modern science is its insistence upon the strict verifying of its belief. But this insistence upon exactitude and proof, which has wrought such wonders in the creation of physical science, has had a deadening effect upon the moral and spiritual vigor of the age. In the field of ethics and religion the increasing demand for definiteness and demonstration has gone unsatisfied. The only proof offered has been an appeal to "intuitions," "ethical postulates," "value-judgments" and other empty phrases.

Thus the very basis of morality is being gradually undermined. A secret, almost unconscious but deadly doubt, has been diffused even among the common people. For they, too, in these days, read and reflect. They, too, distrust declamation, assumptions, poetic metaphors, and are demanding proof. Hence ethical doubt is spreading among the so-called

lower classes. Who indeed have so many seemingly good grounds as they for doubting the moral order of the world?

But against this advancing skepticism we have now presented an impregnable defense. First we have shown that the deterministic arguments all spring from a sophistical denial of causality, by reducing it to mere sequence. Second, that the four positive proofs of freedom all depend upon and derive their cogency from a proper interpretation of the causal principle. It follows that if the now widely prevailing mystification concerning this principle were dispelled, doubt of freedom would become impossible. In other words, we should be as immediately conscious of freedom as we are of pain or pleasure.

## CHAPTER XII

### DEMONSTRATION OF THE SOUL'S EXISTENCE

### *Section 1. Revelation of the Unseen*

"SOULS have worn out both themselves and their welcome, that is the plain truth. . . . Like the word 'cause,' the word 'soul' is but a theoretic stop-gap—it marks a place and claims it for a future explanation to occupy." So wrote Professor James; and as an after thought, "Some day, indeed, souls may get their innings again in philosophy."[1]

Whether it was an intuition or an accident that led him thus to link the two terms, cause and soul, I do not know. At any rate, it is for me a happy augury. As the two ideas fell together, so they will rise together; the restoration of the one will be the restoration of the other.

Following, then, the line of thought thus indicated, I seek now to prove the existence of the soul. My first step is to point out that we have now gained a sure, solid, indestructible basis for such a proof. For I have proved inductively that thinking, in all its forms, is essentially an affirming of causality; hence the denial of the latter involves the extinction of thought. But as Hume insisted, no one has ever seen, or touched, or otherwise sensed a causal nexus. It is a reality imperceptible to the senses, and yet one in the presence of which we stand every moment of

[1] A Pluralistic Universe, p. 210.

our lives. Thus all thinking has for its very essence its supreme purpose and function, the revelation of the unseen.

Mark further the strict scientific method by which this insight has been gained. We have made no appeal to innate ideas, intuitions, *a-priori* necessities of thought—assumptions at once illicit and futile, resorted to only in sheer despair of finding any real proof of what one desires to believe. Instead of that I have simply shown that denial here is to abandon all thinking whatsoever.

Again, the only attempts to prove the existence of the imperceptible which have made much impression upon the modern mind have come from the idealistic school. Ingenious fallacies have been devised seeking to set aside the visible world in order to make room for an invisible one. But all such attempts have tended to undermine and break down belief in the spiritual rather than to build it up. Materialism has been greatly strengthened by the absurdity of the arguments directed against it. But no such reproach can be urged against my doctrine. It does not try to tear down the given world in order to construct another out of the ruins.

This then is one element in our proof. It is not by itself decisive; but it is pretty near half the battle. He who clearly comprehends what is involved in this demonstrated truth that every act of true thinking is a revelation of the unseen—that this truth is not a casual inference from one phase of thought that possibly may be contradicted by other

phases—that the one supreme mission of thought is to reveal causation and, therefore, the unseen —will never surrender his conviction of the soul's existence.

*Section 2. The Fundamental Law of Knowledge*

My second proof I will introduce by referring to a grave defect even in the rigid orthodoxy of the Scottish philosophy of common sense and natural realism. There seems throughout a certain dubiety concerning any real, verifiable knowledge of the soul as such; the stream or series of states is manifest; but the soul, at best, is merely suggested. Reid, for instance, says: "Our sensations and thoughts do also suggest the notion of a mind and the belief of its existence and of its relations to our thoughts."[1] Similarly, Dugald Stewart: "We are conscious of sensations, thought, desire, volition, but we are not conscious of the existence of mind itself. This is made known to us by a suggestion of the understanding, etc."[2] So Sir Wm. Hamilton: "There exists no intuitive or immediate knowledge of self as the absolute subject of thought, feeling and desire, but, on the contrary, there is only possible a deduced, relative and secondary knowledge of self as the permanent basis of these transient modifications of which we are directly conscious." Dr. Wayland is still more explicit: "Of the essence of mind we know nothing. All that we are able to affirm of it is something which perceives, reflects and wills; but what that

[1] Inquiry, ch. 2, § 7.
[2] Porter, Intellectual Science, pp. 69, 70.

something is which exerts these energies, we know not."[1]

It seems a rather doleful outlook. Here we have an array of what are generally regarded as the most eminent defenders of the soul's reality. And at the critical point they all fail us entirely. They virtually surrender everything by conceding that we have no direct, definite knowledge, but only a mere suggestion, a relative, secondary apprehension of the self as fading away into the unknowable cause of our psychic states. To all intents and purposes these champions of the soul's existence seem to concur with Mill's view that the mind is but a series of feelings "with a background of possibilities of feeling."

Their virtual surrender of selfhood arose, I think, from lack of any definite view of the nature of knowledge. Under the leadership of Reid they had dealt heavy blows upon the old doctrine that knowledge was a sort of picturing process; but the snake had been scotched not killed; they had formulated no other theory of knowledge to put in the place of the one overthrown. And as always happens in such cases, the old error still lingered on, vague, obscure, but all the more potent for evil because unrecognized. This, I may note in passing, is the explanation of the fact noted by Hamilton that Reid, after having triumphantly refuted the representation theory, so frequently relapses into the very error he had repudiated. Hamilton, in view of these inconsistencies, is inclined to doubt whether Reid was a Nat-

[1] James, Psychology, I. pp. 347, 348.

ural Realist at all. But that is unjust. Reid's temporary defections simply exemplify the truth attested by all experience that mere negation avails little or nothing. To really exterminate an ancient error, you must put something better in its place. That Reid failed to do in regard to the theory of knowledge; hence, his unconscious relapses.

The same defect pervades the would-be spiritualism of the Scottish school, reducing it to an attenuated, merely verbal form that does not essentially differ from the doctrine of Hume, Mill, Bain and other theorists, that the self is nothing but the sum, series or stream of mental activities. To show that, we have only to recall what has been demonstrated in these pages to be the true theory of knowledge. That theory is based upon my now verified thesis that all thinking is a relating of cause and effect; from this there is derived as an evident corollary the fundamental law of knowledge—namely, that we can really know causes only through their effects, and conversely only effects through their causes. Now the writers just quoted ignore the second half of this fundamental law. To say as they do that we know the soul only through its activities—perception, reasoning, volition—is not an altogether false assertion. But it is only a half-truth, and therefore a fatally one-sided, mutilated and misleading view. For it keeps out of sight the other half, the complementary truth that we can have no real knowledge of our mental activities except by relating them to their cause, the agent that acts. To neglect this double

demand is the most insidious of all errors; for no other falsehoods are quite so deceptive as those that contrive to tell one-half the truth and omit to tell the other half. You may say, then, that we know the self only through its activities, provided you add that we know the activities only through their relations to the unitary, abiding self. Then only do you tell the whole truth and nothing but the truth.

Note further the illimitable sweep of this law of knowledge. It spreads over both worlds. Already I have shown that neglect of it is the source of that illusionism that has blighted modern philosophy: the thing by itself is indeed unknowable, just as Kant said, but so also is the attribute or quality by itself.

But our present theme is to show the full bearing of this law upon the problem of the soul's existence. For that purpose let us consider the argument of Kant, who is universally recognized as the chief agent in the banishment of the soul from modern philosophy. His claim is this: *"I think* is therefore the only text of rational psychology, from which it must develop its entire system."[1] But see how bare and jejune is this Kantian conception of thinking which is to settle the question of the soul's reality. (1) Thinking, in Kant's sense of the term, is a mere process of illusion; it reveals nothing but false appearances. (2) Thinking is throughout, from first to last, naught but a self-contradictory process; all its affirmations are figments which the human mind is compelled to accept as true or valid; and yet is com-

[1] Critique of Pure Reason, p. 306.

pelled to believe them untrue or invalid. (3) Thinking, according to Kant, is the acme of all vagueness and vacancy. "All judgments," he tells us, are "nothing but the mode of bringing given representations under the objective unity of apperception." That is, the one essential function of thought is to unify sensations. But unity is the loosest, the most indeterminate of terms. There are no two objects in the universe so discrepant and contrary to each other that they cannot be united in some way or other by thought. (4) Again, Kant strips from thought all but its lowest and meanest characteristics. He magnifies volition immensely; but it does not occur to him that right thinking involves the hardest, noblest, rarest of all acts of the human will. Kant's real God is the Good Will; while thought is only the clumsy tying of fictitious bundles.

"We have here before us," Kant continues, "a pretended science raised upon the single proposition, *I think*." But is it any wonder that such a conception, or rather caricature of the soul's activities, as he gives, should not lead to any assurance either of the soul's nature or of its existence?

But abandon this pessimistic view; contemplate the activities of the soul as they really are; recall that power of reversal whereby thought passes backward from present effects to their causes in the distant part, forward to foresight of what is yet to come, and upward to the Infinite Cause of all; consider how thought has transformed the face of Nature and unveiled her incalculable resources for the

use and enjoyment of mankind. Listen to Kepler's cry, "O God, I am thinking Thy thoughts after Thee." Look upon even the demoniac aspects of thought—the sin and sorrow of the world. Remember, above all, my proof that the supreme mission of thought is to reveal the unseen. Such knowledge of the soul's activities gives knowledge of its nature and its existence; and the converse is equally true.

But all that, you object, does not prove that the soul exists as a substance. That I cheerfully concede. The category of substance and attribute is a subordinate, derivative one, as I have shown in Chapter IV; if you make it the ultimate one you are at once entangled in the contradictions that ruined the philosophies of Descartes, Spinoza and Leibniz. The one ultimate, all-inclusive category is that of cause and effect. That alone does not make perceptible things the type or standard of reality to which all else must somehow conform. That alone permits of different degrees, beginning with its perfect type in God; then descending to man, whose free causality is limited to action of the mind upon the body, then to other animals, plants, inorganic things, all of these being imperfect causes—that is, factors in causal processes.

In fine, the apparent force of Kant's argumentation against the existence of the soul is wholly due to the fact that he was contending against an improper and most misleading conception of the soul as substance. The word substance is so constantly and familiarly applied to spatial things, that it un-

avoidably suggests them. But drop this misleading term. Conceive the soul under the category of cause —an imperfect finite cause indeed, but still as free, conscious, rational, closely akin to the causality of God. Then you will see that Kant's argument is but a beating of the air.

### *Section 3. Monism*

But there are still other difficulties to be surmounted. Having passed beyond Kant, we are immediately confronted by the monism of his successors. Kant himself had suggested that the mysterious unknown concealed behind the phenomena of sense might possibly be identical with the unknown in ourselves. Fichte, Schelling and Hegel hastened to develop this suggestion; although their great master had expressly warned them against the perils of such a procedure: it was "the forbidden fruit" on the tree of knowledge. Hence rose the monistic view of selfhood which Hegel formulated in one brief sentence: "The truth is that there is only one reason, one mind, and that the mind as finite has no existence."

But fortunately we do not have to cope here with that myriad of logical and verbal sinuosities behind which this monism entrenched itself. It is enough to point out the two fallacies upon which this surprising doctrine rests; and they are so obvious that the task is an easy one. The first is that which I have already described as the fallacy of the Whole and its Parts. The idealistic monist begins by dissolving

the spatial universe into false appearances; its *esse* is *percipi;* it has no independent reality, but exists only in the infinite consciousness or mind. Space and all spatial relations being thus wiped out of existence, we are then told that the Divine Mind is an infinite Whole made up of innumerable millions of parts; but how that which is unextended can be thus divisible into parts, we are left to conjecture.

It may be objected that Hegel guards against this absurdity by conceiving the Infinite not as a mechanical, but an organic Whole. The totality is not, as Spinoza regarded it, a mere aggregate sum; it is a living whole united with its modes by an organic tie. But that increases, instead of obviating the difficulty. For, you may pulverize an inorganic thing, a rock, for instance, and leave the parts intact; but to pulverize an organism is to destroy both the life of the whole and that of the parts.

A false view of self-consciousness is the second fallacy. Just as Hume ignored everything in consciousness except the series of states, the Hegelian ignores everything but the self in an impossible relation to itself. The self as subject and the self as object, though different, are identical. Or as Haldane enthusiastically asserts: "The deepest and most fundamental of all relationships appears to be that of being object to a subject. Its discovery is the beginning of wisdom. . . . It is the wicket-gate to the pathway to Reality." For, as he further asserts, it solves that dark problem: Why is the Infinite Mind, the Absolute, compelled to thus finitize itself? The

answer given is, that it is the very nature of Mind or Thought to split itself into contradictory abstractions or moments, and then to unify these contradictions on a higher plane. To be self-conscious, the Absolute subject must transmute itself into an object, something different from and yet identical with itself.[1] And so far as can be gathered from Hegel's rather obscure utterances, Haldane, I think, has here correctly stated the Hegelian view.

But such a view of consciousness is saturated through and through with that most ruinous of all errors which I have described in Chapter III. as the fallacy of resemblance. That fallacy is the survival in human reasoning of the animal's capacity for noting likeness and unlikeness and of being guided thereby. But judgments thus made are essentially incoherent and self-contradictory; for everything is *like* and *not like* everything else. Nevertheless, Hegel's theory of self-consciousness—and that of Schelling and Fichte also—was based upon this fallacy of resemblance. Their minds kept revolving, with an almost ludicrous solemnity, around the fact that in self-consciousness the subject and the object were like and not like, identical and different. Remember, too, that this is the finale of the Hegelian philosophy; the long series of self-contradictions ends at last with the discovery that in self-consciousness subject and object are unmistakably the same.

But I have shown how these mere feelings of likeness and unlikeness, so indeterminate, incoherent

[1] Haldane, Pathway of Reality, I. pp. x. and 32.

and self-contradictory, can be converted into true relations, definite, precisely comparable and therefore useful as material for reason to work upon. To thus transform them we need only to specify that upon which the likeness or unlikeness *depends;* in other words, whence it *results.* And the more exact our determination of the cause upon which the likeness or unlikeness depends, the more exact and verifiable our knowledge becomes.

Now apply this distinction between vague feelings of resemblance and exact causal relations to the question before us. You define self-consciousness, after the monistic fashion, as the subject's contemplation of itself as an object different from and yet identical with itself. I answer that you have really said nothing. Your definition does not define. On the contrary, it doubles, trebles the indefiniteness, reduces consciousness to something utterly inexplicable and self-contradictory. But for this definition substitute a causal one. Define self-consciousness as the self's knowledge of itself as the cause of its own activities. Then light begins to dawn. Both the self and its activities are illumined. For while this definition is exact in that the precise relation between the conscious self and its object is described, yet ample room is left for the diversities of causality so evident in a human self. Very often this causality is at its minimum; the mind surrenders itself to idle musing, blind, automatic association, but even then it vaguely recognizes itself as cause, as able to rise from mere dreaming to sterner activity. And so there are quick

transitions from this lower level of consciousness to loftier ones, to patient, persevering toil, to hard, bitter struggle against temptation, to prolonged battle with defects of character, and above all to a divine self-sacrifice for the sake of others. In fine, consciousness reveals not a causality vague and undifferentiated, but a causality of many degrees or grades as distinguishable as the heights of hills or mountains.

Compare now this view of consciousness with one of the sanest and most recent versions of the subject-object hypothesis, the one given by that very able and candid thinker, Professor Ward. The keynote of his discussion is this: "We find not a dualism of mind and matter, but a duality of subject and object in the unity of experience." Note first that there is a tinge of mystification in the very terms used; for subject and object are words so vague as to be interconvertible. What Ward calls object, Duns Scotus, Descartes and others still later called subject; even Locke speaks of the object of thought as the subject of thought;[1] and something of this usage, this interchange of the two terms, still lingers in ordinary speech. But more important than this is Ward's frank confession that he cannot define the relation between these two ambiguous and confluent terms. All that he can say is "that it is that relation of subject to object and of object to subject in virtue of which they are severally subject and object." Does not that seem the climax of tautology and emptiness?

[1]Locke, Essay, Book II. ch. 8, § 7.

And in the same mystifying strain he adds: "As the absolutely ultimate relation in experience, we can either say that it is inexplicable, or that it needs no explanation, or we may entertain the notion of an Absolute in whom the unity of experience outlasts the duality."[1]

In this midnight of uncertainty, one star alone seems to shine forth. We are told: "But one thing, I think, we must not do; we must not attempt to bring this relation of subject and object under the category of cause and effect."[2] No hint of any reason is suggested for excluding that principle of causality which I have proved to be the one essential function of all thinking, and which seems to throw so much light upon this special question of self-consciousness; further, it is admitted by our author that no other satisfactory explanation can be found; and yet at all costs this causal explanation must be excluded. Ward is certainly a strong witness for the truth emphasized throughout this volume that inability to solve Hume's problem has engendered a sort of philosophic grudge against the causal principle, the essence of all thinking and the source of all reasonable explanation.

The outcome of all such speculation is inevitable. "There is not a subjective and objective before us, but there is what we find to be an indivisible subjective-objective . . . one thing which no effort of thought can construe as really two."[3] In plainer

[1] Naturalism and Agnosticism, II. p. 117.
[2] *Ibid.*
[3] *Ibid.*, p. 200.

words, consciousness is naught but an endless rehearsing of the old puzzle about identity and difference, likeness, and unlikeness. The world, as well as consciousness, is an illusion. Space and time are mental figments. "And if we allow the conception of a Supreme Mind and First Cause to be valid at all . . . really, fundamentally, ultimately, we shall have God only and no mechanism."[1] In fine, the visible universe is abolished in order to make room for its Creator.

Idealistic monism, then, in all its varieties is the product of two great fallacies. The first is the fallacy of the whole and its parts. The Infinite Mind is envisaged as an extended substance divisible into countless parts or "momentary fragments," as Royce prefers to call them. That I think is the absurdest paradox ever invented by human perverseness. It sounds like a survival of the Hindu legend mentioned in Chapter X, that the Supreme Being divided himself into parts out of which to create the world; but that was meant as a poetic symbol for the divine self-sacrifice; idealistic monism appears to take it literally. The second fallacy is that of likeness and unlikeness, identity and difference. That is a reversion going even farther backward than to Hindu legends. It reverts, as we have seen, to that animal stage of life which is guided not by reasoning from cause to effects or from effects to cause, but by vague association of similarities. Either of these fallacies by itself would be enough to

[1] *Ibid.*, p. 274.

destroy a much more plausible hypothesis than monism.

The belief in the soul's existence, then, has nothing to fear from idealistic monism. Rather it is strengthened and confirmed by the manifest weakness and folly of the arguments directed against it.

### *Section 4. Parallelism*

But the belief in the soul's existence is confronted by another foe, the doctrine of parallelism. Let us take as an able exponent of this doctrine Professor Fullerton. Two agencies so diverse as the physical and the psychic, he insists, cannot be united in one causal process. "The attempt to patch up a defective machine with what is immaterial is, indeed, absurd. Such a patch cannot be *put on,* such a joint cannot be *inserted* in any sense of the words that has a significance. The machine remains defective; there is an unfilled gap."[1] He re-echoes Clifford's reference to the railway-train, the two parts of which were linked together by ideas instead of iron couplings, "the bond of union between the two parts being the sentiments of amity subsisting between the stoker and the guard."

But this great train, weighing perhaps a thousand tons, is pulled along for thousands of miles, over high mountains, by a slender iron rod linking it with the locomotive. And yet this iron rod is but an aggregate of atoms, each atom entirely distinct and separated from its nearest neighbor by a vast dis-

[1] Metaphysics, p. 522.

tance relatively to its size. What holds this host of disconnected atoms so firmly together despite the immense force tending to pull them apart? Experience, you say, tells us that the iron rod has this power or property, and with that we must be content. But a still more familiar and constant experience assures us there is also interaction between our volitions and our bodily organs. Nevertheless, you flout at that as absurd; thought and things are too diverse to interact.

(2) Or do you reply with the stale saying that science does not pretend to explain, but merely to describe. That is a shallow and a futile evasion. For, first, if everything is so wrapt in utter mystery that science does not attempt to explain anything, then you cannot deny the interaction of mind and body on the ground of its inexplicability. And secondly, without some explanation, description is impossible. To describe any fact aright, you must analyze it into its elements, convert its particulars into universals and do much else that goes far toward explanation.

(3) Another significant fact is the strict limitation of the mind's potency to action upon the body. No thought, volition or sentiment of ours can directly cause even a leaf to stir, much less pull Clifford's railway train over high mountains. But every atom of matter seems endowed with miraculous powers—attraction, affinity, etc.—of acting upon all other atoms. The mind in this respect seems feebleness incarnate. Yet this limitation is an aid instead of an obstacle to my argument. For if the human

mind is thus devoid of potencies which even the atoms possess, it certainly cannot be the Absolute Mind working within us, as Hegel, Haldane, Royce, etc., would have us believe. It is an individual mind, potent only in a limited sphere ruling only within the body.

(4) There is a great mass of rather trivial disputation between the friends and foes of parallelism—thrusts and counter-thrusts with blunted sword-points—upon which I need not dwell; they are given in almost any recent text-book. But there is one feature of the discussion that seems to have escaped attention. Bain, for example, is a very staunch defender of the parallelistic view. He says: "The only tenable supposition is that mental and physical activities proceed together as *undivided twins.*"[1] Thus he virtually abolishes thought as anything more than one "side" or "aspect" of brain motions. But that carries him not one step nearer to, but rather much farther away from any genuine realism. In his opinion the brain motions are altogether illusory, mere possibilities of sensation.[2] In fine, both of Bain's undivided twins are pure hallucinations. He has landed in utter nihilism.

Höffding is another example. The Identity hypothesis which he accepts "regards the mental and material worlds as two manifestations of one and the same being both given in experience. . . . But what kind of being is this? Why has it a double form of manifestation, why does not one suffice?

[1] Mind and Body, p. 132.
[2] Mental Science, p. 198.

These are questions which lie beyond the reach of our knowledge."[1]

(5) But the paramount consideration is that parallelism is a product of the denial of causality. Fullerton naïvely bears witness to this. Only in the physical system, he asserts, "does there obtain an order which we call that of cause and effect. . . . The coming into being of mental phenomena is causeless."[2] Minds indeed are active, but: "The notions *cause* and *activity, effect* and *passivity* must be carefully divorced when we concern ourselves with an exact description of the changes which take place in the material world."[3] A long chapter is devoted to that distinction which amounts to this; physical causation means uniform sequence, mental activity means action governed by purpose. Thus genuine causation is eliminated from both worlds; mental activity is expressly declared to be causeless and physical activity is but an endless series of effects without a cause.

Not all parallelists are so explicit as Fullerton here is; but all are dominated by the same debased conception of causality. Like Höffding, they are entangled in "the identity-hypothesis"; they conceive cosmic phenomena as a mere flow of abstractions—motions, events, etc.—each consequent being but a transformation of its antecedent, which by courtesy is called its cause. Indeed it is inconceivable that any sane thinker should—in the face of all experi-

[1] Psychology, pp. 66, 67.
[2] Metaphysics, p. 524.
[3] *Ibid.*, p. 234.

ence—deny the causal influence of our thoughts upon our actions, unless he had previously abandoned belief in all causation whatsoever.

But your disproof of parallelism, it may be said, does not prove the soul's existence. True; but it removes a great barrier. It shows that parallelism is a mere mystification due to the temporary obscuring of the principle of causality, the very essence of all thinking. Philosophy at present is like a mariner who cannot find the harbor on account of the fog. Let the fog lift, and there the harbor lies in plain sight before him.

### *Section 5. Animism*

But this belief in the soul, it will be objected, is a mere survival of savage animism. On the contrary, it is the remedy for the animistic disease—a malady prevailing far more widely than our objector dreams of. For animism consists essentially in materializing the spiritual, in ascribing to the invisible properties and relations that can belong only to visible, extended things. And that disease is just as common among philosophers as among savages. Hegel's doctrine of the organic Whole and its parts, for instance, is thoroughly animistic; he ascribes to the spiritual what can belong only to extended things. And almost all the objections urged against the soul's existence are based upon some such materialistic, metaphorical way of conceiving the spiritual. Take, for example, the most difficult question of all: Where is the soul? Is it located, as Descartes supposed, in the pineal

gland? Or is it diffused throughout the whole body? Or is it, as a very able Neo-Scholastic insists, nowhere?[1]

But consider this question from our present point of view. It is obviously impossible to determine the spatial relations of a spirit. But we are not thus driven into Kantian agnosticism. For I have proved that the soul is a free cause, but limited in its action to the body. And it is this causal relation which is the essential, the supremely significant element in all our thinking and knowing. The question of the soul's location is a minor, irrelevant one; the failure to answer it leaves our true knowledge of the soul intact.

Nor am I disturbed by the reflection that this view is akin to that of St. Thomas of Aquin.[2] For true philosophy has ever been a prolonged effort to attain unity of thought without effacing real distinctions. Both Plato and Aristotle sought that goal, the one swerving toward idealistic, the other toward materialistic monism. In the Middle Ages that effort continued, and in the labors of St. Thomas reached a degree of excellence which, considering the difficulties which had then to be encountered, is a marvel of genius. Even Höffding says: "The greatest merit of the Middle Ages lies in its absorption in the inner world of the life of the soul. . . . No wonder that a fine and deep sense of the inner life developed."[3]

[1] Perrier, Revival of Scholastic Philosophy, p. 123.
[2] De Wulf, Hist. Med. Philosophy, p. 339.
[3] Hist. Modern Philosophy, I. p. 5.

But modern speculation has neglected one-half of the true philosophic task. In its eagerness to unify it has effaced those vital distinctions without which thought becomes a mere welter in the mire of confusion and doubt. From this sad plight there is no possible escape save through the doctrine of these pages. There is no other way of solving philosophy's problem—to unify without effacing distinctions. For causality in the only relation which at once distinguishes and unites: or rather, in order to unite. Thus we have been enabled to preserve such priceless distinctions as those of God and the world, the seen and the unseen, body and soul, uniformity and freedom—without loss, aye, with increase of unity. My doctrine is then dualistic, in that it accepts that dualism of causality that unifies everything.

And thus philosophy gains what it never has had heretofore, an indestructible basis. All thinking becomes impossible, if we cancel causality; and the causal conception in its fullness is identical with the theistic conception of God. We have then no need of innate ideas, postulates, or Kantian a-priorities. As Amiel said, the one thing needful is to know God.

### *Section 6. Immortality*

I have shown that all forms of true thinking are ultimately reducible to a relating of cause and effect; that is thought's sole essential function. Thus the skepticism so rife in the last two centuries, is swept aside. The imperfection of the senses must, of

course, be conceded; they do not reveal things in all respects precisely as they are. But scientific thought has overcome these illusions by unveiling their causes. And to those followers of Kantor Hegel who still exaggerate this imperfection of sense into a universal illusionism, I have made the sufficient answer that all such extravagance is tantamount to the extinction of thought.

The first truth concerning immortality, inferrible from this view, is that all animistic features must be eliminated from our conception of the soul. In other words, the soul must be regarded not as substance but as cause. For, as was shown in Chapter IV, § 1, substance is a subordinate and derivative category: it normally suggests material things and can only metaphorically be used in a wider sense: thus it misleads. Even Descartes grants that it can be applied to both God and finite things only in two very different senses. The Cartesian view of God as substance ended necessarily in Spinozistic pantheism. In precisely the same way, the view of the soul as substance ends in animism—the materializing of the spiritual.

The religion of India is a glaring example of this animistic decline. From its early Vedic purity, which knew nothing of metempsychosis, it lapsed into a conception of the soul as some strange substance or stuff hidden sometimes in a human body, at other times in a fish, a worm, an insect, a tree or a stone. And the natural reaction from this animism led to the Buddhistic denial of the soul

as aught but a series of evanescent thoughts and feelings.

But animism has by no means been confined to savage races or to India. Kant's whole argument against any theoretic proof of the soul's existence hinges expressly upon this substance-view thereof; recall for instance his famous "elastic ball" contention, and Hegel's theory of the human mind as a fragment, a sort of single cell in the Absolute organism, is explicit animism through and through.

We must then put aside this bewildering animism and interpret the soul causally, that is, as the cause of the psychic activities, thought and volition.

The second truth to be emphasized is that *whatever is a true cause—that is, irreducible and unitary —is imperishable.*

All modern science proclaims that truth. The things we see, even the "everlasting hills," are complexes that change incessantly, decay and vanish. But the true unitary causes of these changing combinations, the elements which by their mutual attractions and repulsions produce and destroy these unstable complexes—these abide indestructible. If then the self is a unitary cause even to the same extent that the physical elements are causes, it is imperishable.

But a three-fold proof has already been given that the soul has such causality in a far higher degree than any mere thing. First, it has been shown in these pages that the knowledge of causality is a revelation of the unseen, an enlargement of power im-

possible to any material object. Second, thought has a double movement whereby induction becomes possible and thus Nature's hidden processes are laid open for human use. Third, the soul has been proved free and thus in closest kinship with the Infinite Cause. Surely then it is stupid to deny to such a cause as the soul an imperishableness we concede to unconscious things.

And I now add still another proof, simpler and final. Of nothing has the mind so intimate a knowledge as of its own thoughts and volition; indeed, according to idealism, it knows nothing else. But universally the mind has discriminated between itself and its transitory states, as one cause and many effects. Therefore if this discrimination is uncertain or false, much more so must be its discriminations between other things far less intimately known. It follows that the mind has no power of truly discriminating between cause and effect. Thus you have again made all thinking impossible. Your creed must be nihilism and the extinction of thought.

In this proof of immortality, so long sought in vain, we have another instance showing the illimitable scope and value of our fundamental principle. It has been demonstrated that all thinking has one essential function, that of causal conviction. It follows as an evident corollary therefrom that the whole realm of true thought and knowledge, despite its superficial diversities, must have so firm a unity, so perfect a solidarity that to cut away one part is to destroy the whole. And what was thus inferrible

as a corollary, we have in this volume verified as a fact.

Furthermore this new view partially justifies those frantic appeals to faith which many thinkers are now making. Their faith is not a mere blind, foolish credulity; it is a dim, unreasoned insight into such a unity and interdependence of all truth that the ruin of one part is the ruin of the whole. Kant, for example, believes in the moral law, and thus manages "to make room for faith" everywhere else. So the Neo-Hegelian rests every thing upon faith in "an articulated system" or "Totality," without being able or even seriously attempting to prove its reality; it hangs in the air like Kant's system of a-priorities or Leibniz' pre-established harmony.

But this great gap is now closed. The perfect unity and solidarity of truth throughout the whole realm of knowledge is an inevitable corollary from the now demonstrated principle that the sole essential function of thought is to relate cause and effect.